

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Friday, July 20, 2012 11:32 AM
To: 'ecolaw@trustees.org'
Cc: Bates, Randall W (DFG); Webb, Angela A (DFG); Chaplin, Peggy J (DFG); Smith, Abby E (DFG)
Subject: Public Records Request for Agency Contract #IHP-10-021 (F&G Log Item 12051)

Attention: Nancy Wainwright

We received your payment today and copies of the documents requested were put in the mail on July 20, 2012.

Ott, Alvin G (DFG)

From: Harold, Suzanne R (DFG)
Sent: Wednesday, December 28, 2011 9:29 AM
To: Ott, Alvin G (DFG)
Subject: RE: Phyllis's Contract

Thanks Al,
I will get this to Tom and see if he can get this contract rolling.

Suzanne

From: Ott, Alvin G (DFG)
Sent: Wednesday, December 28, 2011 9:27 AM
To: Harold, Suzanne R (DFG)
Subject: Phyllis's Contract

Updated with funding sources added.

Ott, Alvin G (DFG)

From: Harold, Suzanne R (DFG)
Sent: Wednesday, December 28, 2011 8:55 AM
To: Ott, Alvin G (DFG)
Cc: Morris, William A (DFG); Webb, Angela A (DFG)
Subject: RE: Contract & Chuitna Coal Project - SSC

Hi AL,

I heard back from Katrina Lee, this is what she said on the Tulsequah Chief RSA coding: That code is definitely inactive, the company went bankrupt and had to stop the project.

So all the other coding is good on the spreadsheet. I still have not heard back from Tom Taylor, but will call him again today and let you know.

Thanks.

Suzanne

From: Harold, Suzanne R (DFG)
Sent: Thursday, December 22, 2011 3:53 PM
To: Ott, Alvin G (DFG)
Cc: Morris, William A (DFG); Webb, Angela A (DFG)
Subject: RE: Contract & Chuitna Coal Project - SSC

Hi Al,

Here is the updated spreadsheet with the possible funding sources for Scannell Scientific.

Please note that the Tulsequah Chief RSA funding in AKSAS is "not active" and I have an email into to Katrina Lee as to the status of this RSA, but she is on Vacation until next week.

In regards to Tom Taylor, procurement officer getting back with me on the contract, I haven't heard back from him yet hopefully by tomorrow. Will update you as soon as possible.

Thanks,
Suzanne

From: Ott, Alvin G (DFG)
Sent: Wednesday, December 21, 2011 12:00 PM
To: Harold, Suzanne R (DFG); Webb, Angela A (DFG)
Cc: Morris, William A (DFG)
Subject: FW: Contract & Chuitna Coal Project - SSC

Suzanne – please check to see what we need to do to reissue this contract with Phyllis for another two year period with a work scope not to exceed \$50,000 and let me know. Thank You.

From: Nakanishi, Allan S (DEC)
Sent: Wednesday, December 21, 2011 11:46 AM
To: Ott, Alvin G (DFG)
Cc: phyllisscannell@gmail.com; Nakanishi, Allan S (DEC)
Subject: Contract & Chuitna Coal Project - SSC

Hello Al!

I wanted to check in with you to see if the contract with Phyllis was still in place and if what we've set up for FY11 is still applicable for FY12. If not, I'd like to make a similar arrangement where costs for Phyllis's work on the Site Specific Criteria under the Chitna Coal project were charged to your contract, but was reimbursed by reallocating RSA funds from DEC to DF&G.

We have not yet completed the Iron Criteria review and still require Phyllis's expertise in to complete this review. The working arrangement under the DF&G contract is very convenient and I hope that we can continue it!

Thanks!

-allan

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

Ott, Alvin G (DFG)

From: Nakanishi, Allan S (DEC)
Sent: Wednesday, December 21, 2011 1:03 PM
To: Ott, Alvin G (DFG)
Cc: Nakanishi, Allan S (DEC)
Subject: RE: Contract & Chuitna Coal Project - SSC

Much appreciated All

From: Ott, Alvin G (DFG)
Sent: Wednesday, December 21, 2011 12:03 PM
To: Nakanishi, Allan S (DEC)
Subject: RE: Contract & Chuitna Coal Project - SSC

We will check into this – her current contract expires on December 31, 2011 so we need to do something. We will proceed to try to get the contract reissued and will keep you posted.

From: Nakanishi, Allan S (DEC)
Sent: Wednesday, December 21, 2011 11:46 AM
To: Ott, Alvin G (DFG)
Cc: phylliscannell@gmail.com; Nakanishi, Allan S (DEC)
Subject: Contract & Chuitna Coal Project - SSC

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Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

Ott, Alvin G (DFG)

From: Phyllis [phyllisscannell@gmail.com]
Sent: Wednesday, December 21, 2011 12:45 PM
To: Nakanishi, Allan S (DEC)
Cc: Ott, Alvin G (DFG); phyllisscannell@gmail.com
Subject: Re: Contract & Chuitna Coal Project - SSC

Allan, thank you for thinking about this.
Phyllis

On 12/21/2011 03:45 PM, Nakanishi, Allan S (DEC) wrote:
Hello All

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Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

Ott, Alvin G (DFG)

From: Harold, Suzanne R (DFG)
Sent: Wednesday, December 21, 2011 12:38 PM
To: Ott, Alvin G (DFG)
Subject: RE: Contract & Chuitna Coal Project - SSC
Attachments: Draft ToxicologyContract2009.doc; FY10 Scannell-signed.pdf

Al,
Here you go, the word documents contract.

Suzanne

From: Ott, Alvin G (DFG)
Sent: Wednesday, December 21, 2011 12:00 PM
To: Harold, Suzanne R (DFG); Webb, Angela A (DFG)
Cc: Morris, William A (DFG)
Subject: FW: Contract & Chuitna Coal Project - SSC

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To: Ott, Alvin G (DFG)
Cc: phyllisscannell@gmail.com; Nakanishi, Allan S (DEC)
Subject: Contract & Chuitna Coal Project - SSC

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Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

Aquatic Toxicology for Large Mine Projects

Contractor:

Scannell Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156
518-732-0071 phone
518-732-4361 fax
Phyllis@lacewing.net
Alaska Business License No. 908201

The contract will be for two years. Anticipated period of performance is January 1, 2010 through December 31, 2011 and is estimated not to exceed \$50,000 for all services requested.

Background and Project Goals:

Alaska Department of Fish and Game, Division of Habitat has played a key role in design and oversight of several biomonitoring programs for hard rock mines, which enable the Division of Habitat to fulfill its core mission and mitigate impacts to fish and wildlife associated with large mine developments. Until recently, Division of Habitat employed staff who provided comprehensive oversight of aquatic biomonitoring programs for all new and operating hard rock mines statewide.

The expertise and professionalism the Division of Habitat has provided for over a decade, is respected by the mining industry and state and federal regulators. It is in the state's best interest to hire a contractor who meets the minimum qualifications in order to maintain program continuity at the highest possible level.

Scope of Work:

Contractor will provide scoping comments, recommendations, and fish and wildlife impact analyses to the Division of Habitat on water quality, solid waste disposal permits, aquatic toxicology, and other related issues associated with large mine projects in or potentially affecting Alaska. Contractor will design biomonitoring programs to evaluate the effects, if any, of water quality changes from large-scale mine development projects on fish and wildlife. Contractor will assist the Division of Habitat in (1) the development of appropriate biomonitoring programs, (2) evaluation of monitoring program data and preparations of component elements of the Division of Habitat's annual technical reports for these projects, (3) evaluation of mine impact assessments, (4) assist with technical input with respect to new permits (state and federal) or modifications to existing permits; (5) provide technical analyses and literature reviews regarding toxicity of contaminants; and (6) on request, provide review comments on key mine development documents. The Division of Habitat staff will continue to actually conduct permit reviews and field studies. **Projects include, but are not limited to: Red Dog, Gil, Fort Knox/True North, Ryan Lode, Nixon Fork, Rock Creek, Donlin Creek, Greens Creek,**

Kensington, Pogo, Pebble Copper, Niblack, Galore Creek, Schaft Creek, Eskay Creek, and Tulsequah Chief.

Contractor will also assist the Division of Habitat with the annual preparation of Technical Reports for monitoring activities associated with Red Dog Mine Projects, including independently updating the water quality data files annually.

Contractor may be required to travel to Seattle, Anchorage, and/or Fairbanks to meet with industry, State of Alaska, or Federal agency personnel. All travel must be pre-approved in writing by the Division of Habitat. Travel expenses will be reimbursed by the Division of Habitat in accordance with AS 39.20.160 and AAM 60.010 – 60.290.

Proposed Deliverables and Schedule:

The schedule of deliverables is currently undetermined and is largely dependent on progress and development stages of various mines. The specific scopes of work relative to projects included in this contract will be detailed in writing as addendums to this contract.

POSSIBLE FUNDING SOURCES FOR SCANNELL SCIENTIFIC

	GR	AR	CC	LC
RED DOG RSA	44222	42884	11833072	11833072
FORT KNOX/TRUE NORTH	44225	42887	11833102	11833102
ROCK CREEK RSA	44223	42885	11833082	11833082
DONLIN CREEK RSA	44224	44486	11833152	11833152
GREENS CREEK RSA	44226	42889	11833112	11833112
KENSINGTON RSA	44217	42878	11811042	11811042
POGO RSA	44219	42883	11833062	11833062
PEBBLE COPPER RSA	44219	42880	11822152	11822152
NIBLACK RSA	44227	42890	11855052	11855052
TULSEQUAH CHIEF RSA	44218	42879	11811052	11811052

STANDARD AGREEMENT FORM FOR PROFESSIONAL SERVICES

1. Agency Contract Number IHP-10-021	2. ASPS Number	3. Financial Coding	4. Agency Assigned Encumbrance Number
5. Vendor Number	6. Project/Case Number	7. Alaska Business License Number	

This contract is between the State of Alaska,

8. Department of Fish and Game	Division Habitat	hereafter the State, and
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9. Contractor Scannell Scientific	hereafter the Contractor
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Mailing Address	Street or P.O. Box	City	State	ZIP+4
	1235 Schodack Landing Road	Schodack Landing	New York	12156

10.	<p>ARTICLE 1. Appendices: Appendices referred to in this contract and attached to it are considered part of it.</p> <p>ARTICLE 2. Performance of Service:</p> <p>2.1 Appendix A (General Provisions), Articles 1 through 14, governs the performance of services under this contract.</p> <p>2.2 Appendix B sets forth the liability and insurance provisions of this contract.</p> <p>2.3 Appendix C sets forth the services to be performed by the contractor.</p> <p>ARTICLE 3. Period of Performance: The period of performance for this contract begins January 1, 2010 and ends December 31, 2011.</p> <p>ARTICLE 4. Considerations:</p> <p>4.1 In full consideration of the contractor's performance under this contract, the State shall pay the contractor a sum not to exceed \$50,000.00 in accordance with the provisions of Appendix D.</p> <p>4.2 When billing the State, the contractor shall refer to the Authority Number or the Agency Contract Number and send the billing to:</p>
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11. Department of Fish and Game	Attention: Division of Habitat
Mailing Address P.O. Box 115526 Juneau, Alaska 99811-5526	Attention: Becky Nelson

12. CONTRACTOR		14. CERTIFICATION: I certify that the facts herein and on supporting documents are correct, that this voucher constitutes a legal charge against funds and appropriations cited, that sufficient funds are encumbered to pay this obligation, or that there is a sufficient balance in the appropriation cited to cover this obligation. I am aware that to knowingly make or allow false entries or alterations on a public record, or knowingly destroy, mutilate, suppress, conceal, remove or otherwise impair the verity, legibility or availability of a public record constitutes tampering with public records punishable under AS 11.56.815-.820. Other disciplinary action may be taken up to and including dismissal.	
Name of Firm Scannell Scientific			
Signature of Authorized Representative <i>Phyllis Weber Scannell</i>	Date 2/26/09		
Typed or Printed Name of Authorized Representative Phyllis Weber Scannell			
Title Owner			
13. CONTRACTING AGENCY		Signature of Head of Contracting Agency or Designee	Date
Department/Division Habitat	Date 8/14/09	<i>John White</i>	
Signature of Project Director <i>Kerry Howard</i>			
Typed or Printed Name of Project Director Kerry Howard		Typed or Printed Name John White	
Title Director		Title Procurement Officer	

NOTICE: This contract has no effect until signed by the head of contracting agency or designee.

APPENDIX A

GENERAL PROVISIONS

Article 1. Definitions.

- 1.1 In this contract and appendices, "Project Director" or "Agency Head" or "Procurement Officer" means the person who signs this contract on behalf of the Requesting Agency and includes a successor or authorized representative.
- 1.2 "State Contracting Agency" means the department for which this contract is to be performed and for which the Commissioner or Authorized Designee acted in signing this contract.

Article 2. Inspection and Reports.

- 2.1 The department may inspect, in the manner and at reasonable times it considers appropriate, all the contractor's facilities and activities under this contract.
- 2.2 The contractor shall make progress and other reports in the manner and at the times the department reasonably requires.

Article 3. Disputes.

- 3.1 Any dispute concerning a question of fact arising under this contract which is not disposed of by mutual agreement shall be decided in accordance with AS 36.30.620-632.

Article 4. Equal Employment Opportunity.

- 4.1 The contractor may not discriminate against any employee or applicant for employment because of race, religion, color, national origin, or because of age, disability, sex, marital status, changes in marital status, pregnancy or parenthood when the reasonable demands of the position(s) do not require distinction on the basis of age, disability, sex, marital status, changes in marital status, pregnancy, or parenthood. The contractor shall take affirmative action to insure that the applicants are considered for employment and that employees are treated during employment without unlawful regard to their race, color, religion, national origin, ancestry, disability, age, sex, marital status, changes in marital status, changes in marital status, pregnancy or parenthood. This action must include, but need not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting out the provisions of this paragraph.
- 4.2 The contractor shall state, in all solicitations or advertisements for employees to work on State of Alaska contract jobs, that it is an equal opportunity employer and that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, disability, sex, marital status, changes in marital status, pregnancy or parenthood.
- 4.3 The contractor shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' representative of the contractor's commitments under this article and post copies of the notice in conspicuous places available to all employees and applicants for employment.
- 4.4 The contractor shall include the provisions of this article in every contract, and shall require the inclusion of these provisions in every contract entered into by any of its subcontractors, so that those provisions will be binding upon each subcontractor. For the purpose of including those provisions in any contract or subcontract, as required by this contract, "contractor" and "subcontractor" may be changed to reflect appropriately the name or designation of the parties of the contract or subcontract.
- 4.5 The contractor shall cooperate fully with State efforts which seek to deal with the problem of unlawful discrimination, and with all other State efforts to guarantee fair employment practices under this contract, and promptly comply with all requests and directions from the State Commission for Human Rights or any of its officers or agents relating to prevention of discriminatory employment practices.
- 4.6 Full cooperation in paragraph 4.5 includes, but is not limited to, being a witness in any proceeding involving questions of unlawful discrimination if that is requested by any official or agency of the State of Alaska; permitting employees of the contractor to be witnesses or complainants in any proceeding involving questions of unlawful discrimination, if that is requested by any official or agency of the State of Alaska; participating in meetings; submitting periodic reports on the equal employment aspects of present and future employment; assisting inspection of the contractor's facilities; and promptly complying with all State directives considered essential by any office or agency of the State of Alaska to insure compliance with all federal and State laws, regulations, and policies pertaining to the prevention of discriminatory employment practices.
- 4.7 Failure to perform under this article constitutes a material breach of the contract.

Article 5. Termination.

The Project Director, by written notice, may terminate this contract, in whole or in part, when it is in the best interest of the State. The State is liable only for payment in accordance with the payment provisions of this contract for services rendered before the effective date of termination.

Article 6. No Assignment or Delegation.

The contractor may not assign or delegate this contract, or any part of it, or any right to any of the money to be paid under it, except with the written consent of the Project Director and the Agency Head.

Article 7. No Additional Work or Material.

No claim for additional services, not specifically provided in this contract, performed or furnished by the contractor, will be allowed; nor may the contractor do any work or furnish any material not covered by the contract unless the work or material is ordered in writing by the Project Director and approved by the Agency Head.

Article 8. Independent Contractor.

The contractor and any agents and employees of the contractor act in an independent capacity and are not officers or employees or agents of the State in the performance of this contract.

Article 9. Payment of Taxes.

As a condition of performance of this contract, the contractor shall pay all federal, State, and local taxes incurred by the contractor and shall require their payment by any Subcontractor or any other persons in the performance of this contract. Satisfactory performance of this paragraph is a condition precedent to payment by the State under this contract.

Article 10. Ownership of Documents.

All designs, drawings, specifications, notes, artwork, and other work developed in the performance of this agreement are produced for hire and remain the sole property of the State of Alaska and may be used by the State for any other purpose without additional compensation to the contractor. The contractor agrees not to assert any rights and not to establish any claim under the design patent or copyright laws. The contractor, for a period of three years after final payment under this contract, agrees to furnish and provide access to all retained materials at the request of the Project Director. Unless otherwise directed by the Project Director, the contractor may retain copies of all the materials.

Article 11. Governing Law.

This contract is governed by the laws of the State of Alaska. All actions concerning this contract shall be brought in the Superior Court of the State of Alaska.

Article 12. Conflicting Provisions.

Unless specifically amended and approved by the Department of Law the General Provisions of this contract supersede any provisions in other appendices.

Article 13. Officials Not to Benefit.

Contractor must comply with all applicable federal or State laws regulating ethical conduct of public officers and employees.

Article 14. Covenant Against Contingent Fees.

The contractor warrants that no person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee except employees or agencies maintained by the contractor for the purpose of securing business. For the breach or violation of this warranty, the State may terminate this contract without liability or in its discretion deduct from the contract price or consideration the full amount of the commission, percentage, brokerage or contingent fee.

APPENDIX B¹
INDEMNITY AND INSURANCE

Article 1. Indemnification

The Contractor shall indemnify, hold harmless, and defend the contracting agency from and against any claim of, or liability for error, omission or negligent act of the Contractor under this agreement. The Contractor shall not be required to indemnify the contracting agency for a claim of, or liability for, the independent negligence of the contracting agency. If there is a claim of, or liability for, the joint negligent error or omission of the Contractor and the independent negligence of the Contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. "Contractor" and "Contracting agency", as used within this and the following article, include the employees, agents and other contractors who are directly responsible, respectively, to each. The term "independent negligence" is negligence other than in the Contracting agency's selection, administration, monitoring, or controlling of the Contractor and in approving or accepting the Contractor's work.

Article 2. Insurance

Without limiting Contractor's indemnification, it is agreed that Contractor shall purchase at its own expense and maintain in force at all times during the performance of services under this agreement the following policies of insurance. Where specific limits are shown, it is understood that they shall be the minimum acceptable limits. If the Contractor's policy contains higher limits, the state shall be entitled to coverage to the extent of such higher limits. Certificates of Insurance must be furnished to the Contracting Officer prior to beginning work and must provide for a 30-day prior notice of cancellation, nonrenewal or material change of conditions. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach of this contract and shall be grounds for termination of the Contractor's services. All insurance policies shall comply with, and be issued by insurers licensed to transact the business of insurance under AS 21.

2.1 Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the State.

2.2 Commercial General Liability Insurance: covering all business premises and operations used by the Contractor in the performance of services under this agreement with minimum coverage limits of \$300,000 combined single limit per occurrence.

2.3 Commercial Automobile Liability Insurance: covering all vehicles used by the Contractor in the performance of services under this agreement with minimum coverage limits of \$300,000 combined single limit per occurrence.

APPENDIX C SCOPE OF SERVICES

Background and Project Goals

Alaska Department of Fish and Game, Division of Habitat has played a key role in design and oversight of several biomonitoring programs for hard rock mines, which enable the Division of Habitat to fulfill its core mission and mitigate impacts to fish and wildlife associated with large mine developments. Until recently, Division of Habitat employed staff who provided comprehensive oversight of aquatic biomonitoring programs for all new and operating hard rock mines statewide.

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APPENDIX D
FINANCIAL CONSIDERATIONS

The total amount of this contract is not to exceed \$50,000.00. Payment(s) shall be made upon submission of approved invoices.

Ott, Alvin G (DFG)

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Sent: Wednesday, December 21, 2011 12:03 PM
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Subject: RE: Contract & Chuitna Coal Project - SSC

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Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
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Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

Ott, Alvin G (DFG)

From: Nelson, Becky L (DFG)
Sent: Wednesday, June 08, 2011 3:15 PM
To: Severance, Jennifer L (DFG); Benkert, Ronald C (DFG)
Cc: Ott, Alvin G (DFG)
Subject: Amendment to Chuitna
Attachments: noreply@alaska.gov_20110608_154422.pdf

Attached is the amendment to the Chuitna RSA that Al had requested for Phyllis Scannell-Weber work.

Becky Nelson
Administrative Officer
Division of Habitat
465-1852

-----Original Message-----

From: noreply@alaska.gov [<mailto:noreply@alaska.gov>]
Sent: Wednesday, June 08, 2011 12:44 PM
To: Nelson, Becky L (DFG)
Subject: Scanned image from MX-3500N

Reply to: noreply@alaska.gov <noreply@alaska.gov> Device Name: DFGJNUSUB_MX-3500 Device
Model: MX-3500N
Location: Subsistence

File Format: PDF MMR(G4)
Resolution: 200dpi x 200dpi

Attached file is scanned image in PDF format.

Use Acrobat(R)Reader4.0 or later version, or Adobe(R)Reader(TM) of Adobe Systems Incorporated to view the document.

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State of Alaska

Reimbursable Services Agreement

ORIGINAL ☐

AMENDMENT # 1

Payment Process

☒ Execute RSA (145-90 or 145-85)☐ Agency Journal Entry (430-40)☐ OtherRequesting Agency
Natural Resources

BRU

Resource Development

Component

Large Project Permitting

ADN #

10/11/646

Serving Agency

BRU

Component

ADN #

Fish and Game

Habitat and Restoration

Habitat

I. Project or program title: FY11 ADF&G Chulitna Coal Project

II. The servicing agency agrees to provide the requesting agency with the following service(s):

The Alaska Department of Fish and Game will 1) provide review of a baseline data collection program, including ongoing guidance and review of data as the program progresses. 2) provide a coordinated effort on the State's part in the NEPA process. 3) provide guidance and timely review in development and submission of state agency permit applications. 4) provide coordinated and timely review of all permit applications; 5) dam permitting efforts for the tailing impoundments, water supply reservoirs, etc. 6) Coastal Zone Review Process on all matters related to the Chulitna Coal project. 7) land use permitting for activities on State lands; 8) State agency activities required for Federal authorizations such as the NPDES (402) Permit, and the Wetlands Fill (404) Permit and work done for the NPDES required biomonitoring. Note: For billing purposes, all charges to this RSA will require back up such as payroll charges (name of employees and number of hours charged); copies of TA for travel and other receipts (see attached reporting format). LPP-11-053 DNR LPP COORDINATOR: Ed Fogels 269-8423 - This amendment is to cover contracting expenses

REQ Program Contact/Phone: Emelita Gonzales 269-8660

SVC Program Contact/Phone: Becky Nelson 455-1862

III. Terms and mechanics of reimbursement:

☐ Payment upon approval☐ Payment upon receipt of Inter-agency billing☐ Payment upon completion of service(s)☒ Other (Specify) Upon receipt of appropriate project activity narrative

Billing Address:

Department of Natural Resources

Support Services / Financial Services

400 Willoughby Avenue, 5th Floor

Juneau, AK 99801

Commencement date

7/1/2010

Completion date

8/30/2011

Billing RO code

10073

Phone #

465-2436

IV. Servicing agency cost based on:

☒ Itemized costs of service(s) provided

Cost allocation schedule (description of allocation methodology must be attached)

V. Schedule of maximum costs to be incurred by the Servicing Agency:

	Original Agreement	Previous Amendment(s)	This Amendment	Total
Personal Services	\$ 25,000.00	\$	\$	\$ 25,000.00
Travel	\$ 3,000.00	\$	\$	\$ 3,000.00
Services	\$ 2,000.00	\$	\$ 20,000.00	\$ 22,000.00
Commodities	\$	\$	\$	\$ 0.00
Capital Outlay	\$	\$	\$	\$ 0.00
Grants and Benefits	\$	\$	\$	\$ 0.00
Other	\$	\$	\$	\$ 0.00
Total	\$ 30,000.00	\$ 0.00	\$ 20,000.00	\$ 50,000.00

☐ Servicing Agency may not charge line items without approval of Requesting Agency

VI. Budgeting and Accounting Information:

Requesting Agency Appropriation

☐ Capital☒ Operating

If Operating, is item on Inter-Agency Services Report?

☐ No☐ Yes, on detailed Budget Page

(Format: Sec Ch SLA Pg Ln OR RPL # XX-X-XXXX)

Financial coding to be charged

CC 10900164/73812

AR 37906 / GR 37785

Appropriation Cite

Appropriation Cite

Open Item # or Batch # (RS, EN, or AJE)

RS 10/11/646

Date funds lapse

8/30/2011

Federal funds

☒ No☐ Yes, Amount

Federal Pass Through:

☐ YES☐ NO

ARRA funds

☒ No☐ Yes

ARRA Reporting to be done by:

☐ Requesting☐ Servicing

If the RSA includes ARRA funds, it can not include other types of funding.

ARRA RSAs must stand alone.

Federal Agency/Program/CFDA/Grant/Contract No.

Servicing Agency Authorization

Is this agreement using budgeted authorization?

☐ No☒ Yes

Is item on Restricted Revenue Report?

☐ No☒ Yes, on detailed Budget Page

AR 42881

CO 11822072

RR 59100

Other

LC 11822072

GR 44220

AR

CO

RR

Other

VII: Approvals & Certification: The requesting agency and servicing agency agree to the terms and conditions above. In addition, the requesting agency certifies that sufficient funds are encumbered to pay this obligation or that there is sufficient unencumbered balance in the appropriation cited to cover this obligation. I am aware that knowingly make or allow false entries or alterations on a public record, or knowingly destroy, mutilate, suppress, conceal, remove or otherwise impair the verity, legibility or availability of a public record constitutes tampering with public records punishable under AS 11.66.015-020. Other disciplinary action may be taken up to and including dismissal.

Requesting Agency Authorized Signature

Printed Name

Tom Crafford, Director

Date

6/28/11

Servicing Agency Authorized Signature

Printed Name

Becky Nelson, Administrative Officer

Date

6/8/11

OMB Authorized Signature (if applicable)

Printed Name

Date

Ott, Alvin G (DFG)

From: Howard, Kerry M (DFG)
Sent: Tuesday, May 31, 2011 1:18 PM
To: Ott, Alvin G (DFG)
Subject: RE: Work on Chuitna coal project

Good....

From: Ott, Alvin G (DFG)
Sent: Tuesday, May 31, 2011 12:49 PM
To: Nelson, Becky L (DFG); Monaghan, Donna R (DFG); Howard, Kerry M (DFG)
Subject: FW: Work on Chuitna coal project

FYI

From: Crafford, Thomas C (DNR)
Sent: Tuesday, May 31, 2011 12:47 PM
To: Gonzales, Emelita R (DNR); Andrews, William W (DNR)
Cc: Nakanishi, Allan S (DEC); Ott, Alvin G (DFG); Benkert, Ronald C (DFG); Daigneault, Michael J (DFG)
Subject: FW: Work on Chuitna coal project

DEC is requesting that \$20K be re-allocated from DEC's Chuitna Project RSA to ADF&G's Chuitna RSA. The purpose of this re-allocation is to cover contracting expenses for Phyllis Scannell's (ADF&G has, I believe, a standing contract with Phyllis) review of Site Specific Criteria for iron.

Bill &/or Emmie, could you please re-allocate the funds per DEC's request?

Thanks,
Tom

From: Nakanishi, Allan S (DEC)
Sent: Thursday, May 26, 2011 10:49 AM
To: Crafford, Thomas C (DNR); Stambaugh, Sharmon M (DNR); Meyer, Andrea M (DNR); Ott, Alvin G (DFG)
Subject: Fwd: Work on Chuitna coal project

If necessary, Please re-allocate \$20k from the DEC RSA to the ADFG RSA to cover the cost of Phyllis Scannell's contract for the review of the Fe SSC.

Thank you!

Allan S. Nakanishi
DEC - WDAP
Mining & Technical Services
555 Cordova St.
Anchorage, AK 99501
907.269.4028

Begin forwarded message:

From: "Ott, Alvin G (DFG)" <al.ott@alaska.gov>
Date: May 26, 2011 10:21:56 AM AKDT
To: "Nakanishi, Allan S (DEC)" <allan.nakanishi@alaska.gov>
Cc: "Benkert, Ronald C (DFG)" <ronald.benkert@alaska.gov>, "Phyllis" <phyllisscannell@gmail.com>, "Powell, James E (DEC)" <jim.powell@alaska.gov>, "Nelson, Becky L (DFG)" <becky.nelson@alaska.gov>, "Harold, Suzanne R (DFG)" <suzanne.harold@alaska.gov>, "Lannet, Samantha B (DFG)" <samantha.lannet@alaska.gov>
Subject: RE: Work on Chuitna coal project

Yes, go ahead and increase the RSA to \$20,000 - guess that would go directly to Becky or Suzanne (Suzanne is Patty's replacement in Fairbanks)

-----Original Message-----

From: Nakanishi, Allan S (DEC)
Sent: Tuesday, May 17, 2011 4:47 PM
To: Ott, Alvin G (DFG)
Cc: Benkert, Ronald C (DFG); Phyllis; Powell, James E (DEC); Nakanishi, Allan S (DEC)
Subject: FW: Work on Chuitna coal project

Al,

Attached is an invoice from Phyllis for her work on the Chuitna Coal Iron Criteria Report Review. Her work has been of immense benefit to this project and I recommend processing this invoice for payment. The latest draft technical review report is attached for your records.

I do not have record of the previous invoice, but I believe that we are close to the \$12,000 limit of the contract agreement. The scope and scale of this project has increased and the technical evaluation of the Iron Criteria report is not yet complete. If possible, I'd like to increase the amount of the contract to \$20,000 through the end of FY11. There is enough room in the DEC RSA to cover the cost the contract and we will request that this amount be adjusted to the ADF&G RSA upon your approval.

Thank you!

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program Engineering/Mining Technical Services
555 Cordova Street

Anchorage, Alaska 99501
907.269.4028

-----Original Message-----

From: Powell, James E (DEC)
Sent: Tuesday, May 17, 2011 8:58 AM
To: Nakanishi, Allan S (DEC)
Subject: FW: Work on Chuitna coal project

Allan, I need to discuss this with you and also other news about Chuitna. jim

-----Original Message-----

From: Phyllis [<mailto:phyllisscannell@gmail.com>]
Sent: Tuesday, May 17, 2011 7:06 AM
To: Smith, Patricia G (HSS); Powell, James E (DEC)
Subject: Work on Chuitna coal project

Patty,

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Cc: "Benkert, Ronald C (DFG)" <ronald.benkert@alaska.gov>, "Phyllis" <phyllisscannell@gmail.com>, "Powell, James E (DEC)" <jim.powell@alaska.gov>, "Nelson, Becky L (DFG)" <becky.nelson@alaska.gov>, "Harold, Suzanne R (DFG)" <suzanne.harold@alaska.gov>, "Lannet, Samantha B (DFG)" <samantha.lannet@alaska.gov>
Subject: RE: Work on Chuitna coal project

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Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

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Thanks,

Phyllis

Ott, Alvin G (DFG)

From: Nelson, Becky L (DFG)
Sent: Friday, May 27, 2011 10:04 AM
To: Ott, Alvin G (DFG); Harold, Suzanne R (DFG)
Subject: RE: Work on Chuitna coal project

So I just re-ran the spreadsheets as holiday leave hit the project codes last night and the Chuitna RSA only has \$2,036.22 left in it. We never got an amendment to our RSA increasing it by what DEC was wanting Phyllis do on the project. Our total dollar amount for the Chuitna RSA was only for \$30,000 and have spent over \$27,963.

Help!

Becky Nelson
Administrative Officer
Division of Habitat
465-1852

-----Original Message-----

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:07 AM
To: Harold, Suzanne R (DFG); Nelson, Becky L (DFG)
Subject: FW: Work on Chuitna coal project

Please proceed with processing this invoice and does anyone have a problem with increasing the overall \$\$\$ to 20K for FY11 - let me know

-----Original Message-----

From: Nakanishi, Allan S (DEC)
Sent: Tuesday, May 17, 2011 4:47 PM
To: Ott, Alvin G (DFG)
Cc: Benkert, Ronald C (DFG); Phyllis; Powell, James E (DEC); Nakanishi, Allan S (DEC)
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Thank you!

Allan S. Nakanishi, P.E.

Dept. of Environmental Conservation
Wastewater Discharge Authorization Program Engineering/Mining Technical Services
555 Cordova Street
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907.269.4028

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Thanks,
Phyllis

Ott, Alvin G (DFG)

From: Powell, James E (DEC)
Sent: Thursday, May 26, 2011 12:08 PM
To: Ott, Alvin G (DFG)
Subject: RE: Work on Chuitna coal project

Thank you. Phyllis is excellent. jim

-----Original Message-----

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:22 AM
To: Nakanishi, Allan S (DEC)
Cc: Benkert, Ronald C (DFG); 'Phyllis'; Powell, James E (DEC); Nelson, Becky L (DFG); Harold, Suzanne R (DFG); Lannet, Samantha B (DFG)
Subject: RE: Work on Chuitna coal project

Yes, go ahead and increase the RSA to \$20,000 - guess that would go directly to Becky or Suzanne (Suzanne is Patty's replacement in Fairbanks)

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Ott, Alvin G (DFG)

From: Nakanishi, Allan S (DEC)
Sent: Thursday, May 26, 2011 10:49 AM
To: Crafford, Thomas C (DNR); Stambaugh, Sharmon M (DNR); Meyer, Andrea M (DNR); Ott, Alvin G (DFG)
Subject: Fwd: Work on Chuitna coal project

If necessary, Please re-allocate \$20k from the DEC RSA to the ADFG RSA to cover the cost of Phyllis Scannell's contract for the review of the Fe SSC.

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Allan S.Nakanishi
DEC - WDAP
Mining & Technical Services
555 Cordova St.
Anchorage, AK 99501
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Date: May 26, 2011 10:21:56 AM AKDT
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Cc: "Benkert, Ronald C (DFG)" <ronald.benkert@alaska.gov>, "Phyllis" <phyllisscannell@gmail.com>, "Powell, James E (DEC)" <jim.powell@alaska.gov>, "Nelson, Becky L (DFG)" <becky.nelson@alaska.gov>, "Harold, Suzanne R (DFG)" <suzanne.harold@alaska.gov>, "Lannet, Samantha B (DFG)" <samantha.lannet@alaska.gov>
Subject: RE: Work on Chuitna coal project

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Sent: Tuesday, May 17, 2011 4:47 PM
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Cc: Benkert, Ronald C (DFG); Phyllis; Powell, James E (DEC); Nakanishi, Allan S (DEC)
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Allan, I need to discuss this with you and also other news about Chuitna. jim

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To: Smith, Patricia G (HSS); Powell, James E (DEC)
Subject: Work on Chuitna coal project

Patty,

Attached is the invoice for my work on the Chuitna Coal project I am doing for ADEC. Please call or email me if you have any questions. I have submitted my report to them, although there may be some modifications.

Thanks,
Phyllis

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:45 AM
To: Crafford, Thomas C (DNR)
Cc: Nakanishi, Allan S (DEC); Benkert, Ronald C (DFG); Powell, James E (DEC); Nelson, Becky L (DFG); Harold, Suzanne R (DFG); Lannet, Samantha B (DFG); Howard, Kerry M (DFG); Daigneault, Michael J (DFG)
Subject: Chuitna Coal Project RSA

We received a request from Allan Nakanishi to increase our scope of work with Dr. Phyllis Weber Scannell to \$20,000 for FY11. We have an invoice from Phyllis for about 7K and may not have enough money in the RSA to cover that. I also am not sure that Habitat's RSA was increased to cover the work being done by Phyllis for ADEC – it was supposed to come from ADEC. Could you have your admin people check this out and let us know if we need to do anything or if it's just a matter of adding the proper amount to our RSA from your office.

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:22 AM
To: Nakanishi, Allan S (DEC)
Cc: Benkert, Ronald C (DFG); 'Phyllis'; Powell, James E (DEC); Nelson, Becky L (DFG); Harold, Suzanne R (DFG); Lannet, Samantha B (DFG)
Subject: RE: Work on Chuitna coal project

Yes, go ahead and increase the RSA to \$20,000 - guess that would go directly to Becky or Suzanne (Suzanne is Patty's replacement in Fairbanks)

-----Original Message-----

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Sent: Tuesday, May 17, 2011 4:47 PM
To: Ott, Alvin G (DFG)
Cc: Benkert, Ronald C (DFG); Phyllis; Powell, James E (DEC); Nakanishi, Allan S (DEC)
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Thank you!

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program Engineering/Mining Technical Services
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Thanks,

Phyllis

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:20 AM
To: Nelson, Becky L (DFG); Harold, Suzanne R (DFG)
Subject: RE: Work on Chuitna coal project

yes

-----Original Message-----

From: Nelson, Becky L (DFG)
Sent: Thursday, May 26, 2011 10:15 AM
To: Ott, Alvin G (DFG); Harold, Suzanne R (DFG)
Subject: RE: Work on Chuitna coal project

You mean increasing the RSA? If that is what you're talking about then no go for it.

Becky Nelson
Administrative Officer
Division of Habitat
465-1852

-----Original Message-----

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:07 AM
To: Harold, Suzanne R (DFG); Nelson, Becky L (DFG)
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Please proceed with processing this invoice and does anyone have a problem with increasing the overall \$\$\$ to 20K for FY11 - let me know

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I do not have record of the previous invoice, but I believe that we are close to the \$12,000 limit of the contract agreement. The scope and scale of this project has increased and the technical evaluation of the Iron Criteria report is not yet complete. If possible, I'd like to increase the amount of the contract to \$20,000 through the end of FY11. There is enough room in the DEC RSA to cover the cost the contract and we will request that this amount be adjusted to the ADF&G RSA upon your approval.

Thank you!

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

-----Original Message-----

From: Powell, James E (DEC)
Sent: Tuesday, May 17, 2011 8:58 AM
To: Nakanishi, Allan S (DEC)
Subject: FW: Work on Chuitna coal project

Allan, I need to discuss this with you and also other news about Chuitna. jim

-----Original Message-----

From: Phyllis [<mailto:phyllisscannell@gmail.com>]
Sent: Tuesday, May 17, 2011 7:06 AM
To: Smith, Patricia G (HSS); Powell, James E (DEC)
Subject: Work on Chuitna coal project

Patty,

Attached is the invoice for my work on the Chuitna Coal project I am doing for ADEC. Please call or email me if you have any questions. I have submitted my report to them, although there may be some modifications.

Thanks,
Phyllis

Ott, Alvin G (DFG)

From: Nelson, Becky L (DFG)
Sent: Thursday, May 26, 2011 10:15 AM
To: Ott, Alvin G (DFG); Harold, Suzanne R (DFG)
Subject: RE: Work on Chuitna coal project

You mean increasing the RSA? If that is what you're talking about then no go for it.

Becky Nelson
Administrative Officer
Division of Habitat
465-1852

-----Original Message-----

From: Ott, Alvin G (DFG)
Sent: Thursday, May 26, 2011 10:07 AM
To: Harold, Suzanne R (DFG); Nelson, Becky L (DFG)
Subject: FW: Work on Chuitna coal project

Please proceed with processing this invoice and does anyone have a problem with increasing the overall \$\$\$ to 20K for FY11 - let me know

-----Original Message-----

From: Nakanishi, Allan S (DEC)
Sent: Tuesday, May 17, 2011 4:47 PM
To: Ott, Alvin G (DFG)
Cc: Benkert, Ronald C (DFG); Phyllis; Powell, James E (DEC); Nakanishi, Allan S (DEC)
Subject: FW: Work on Chuitna coal project

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Thank you!

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

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Sent: Tuesday, May 17, 2011 8:58 AM
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Subject: FW: Work on Chuitna coal project

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Sent: Tuesday, May 17, 2011 7:06 AM
To: Smith, Patricia G (HSS); Powell, James E (DEC)
Subject: Work on Chuitna coal project

Patty,

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Thanks,
Phyllis

Ott, Alvin G (DFG)

From: Nelson, Becky L (DFG)
Sent: Wednesday, May 18, 2011 8:42 AM
To: Ott, Alvin G (DFG)
Subject: Re: Work on Chuitna coal project

Okay I'll stay tuned then.

Sent from my iPhone

On May 18, 2011, at 10:36 AM, "Ott, Alvin G (DFG)" <al.ott@alaska.gov> wrote:

> Yes, I'm pretty sure it is -- have asked Suzanne to look into it and
> she will also check with Patty tomorrow - she's in training all day today.
>
> -----Original Message-----
> From: Nelson, Becky L (DFG)
> Sent: Wednesday, May 18, 2011 8:35 AM
> To: Ott, Alvin G (DFG)
> Subject: Re: Work on Chuitna coal project
>
> Is this an RSA we have with DEC? I'm drawing a blank at the moment.
>
> Sent from my iPhone
>
> On May 18, 2011, at 10:16 AM, "Ott, Alvin G (DFG)" <al.ott@alaska.gov>
> wrote:
>
>> Any problem with proceeding with this request to increase the amount
> to 20K.
>>
>> -----Original Message-----
>> From: Nakanishi, Allan S (DEC)
>> Sent: Tuesday, May 17, 2011 4:47 PM
>> To: Ott, Alvin G (DFG)
>> Cc: Benkert, Ronald C (DFG); Phyllis; Powell, James E (DEC);
> Nakanishi, Allan S (DEC)
>> Subject: FW: Work on Chuitna coal project
>>
>> Al,
>>
>> Attached is an invoice from Phyllis for her work on the Chuitna Coal
> Iron Criteria Report Review. Her work has been of immense benefit to
> this project and I recommend processing this invoice for payment. The
> latest draft technical review report is attached for your records.
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> and scale of this project has increased and the technical evaluation
> of the Iron Criteria report is not yet complete. If possible, I'd
> like to increase the amount of the contract to \$20,000 through the end of FY11.
> There is enough room in the DEC RSA to cover the cost the contract and
> we will request that this amount be adjusted to the ADF&G RSA upon
> your approval.
>>

>>
>> Thank you!
>>
>>
>> Allan S. Nakanishi, P.E.
>> Dept. of Environmental Conservation
>> Wastewater Discharge Authorization Program Engineering/Mining
> Technical Services
>> 555 Cordova Street
>> Anchorage, Alaska 99501
>> 907.269.4028
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>> Sent: Tuesday, May 17, 2011 8:58 AM
>> To: Nakanishi, Allan S (DEC)
>> Subject: FW: Work on Chuitna coal project
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>> Allan, I need to discuss this with you and also other news about
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>> From: Phyllis [<mailto:phyllisscannell@gmail.com>]
>> Sent: Tuesday, May 17, 2011 7:06 AM
>> To: Smith, Patricia G (HSS); Powell, James E (DEC)
>> Subject: Work on Chuitna coal project
>>
>> Patty,
>> Attached is the invoice for my work on the Chuitna Coal project I am
> doing for ADEC. Please call or email me if you have any questions. I
> have submitted my report to them, although there may be some
> modifications.
>> Thanks,
>> Phyllis
>> <chuitna invoice2.xlsx>
>> <Scannel_review.docx>

Ott, Alvin G (DFG)

From: Phyllis [woolybee@gmail.com]
Sent: Monday, July 26, 2010 3:23 PM
To: Ott, Alvin G (DFG)
Cc: Marie, Megan E (DFG); Benkert, Ronald C (DFG); Daigneault, Michael J (DFG)
Subject: Re: IronCriteriaReportTt_20100325.pdf

I did not realize that the confusion between site specific criteria and use attainability analysis extended beyond my conversation with Allan Nakanishi at ADEC. When I talked with Allan, he mentioned that ADEC "was doing a use attainability analysis for iron" (which is not really possible). He used the terms "site specific criterion" and "use attainability analysis" interchangeably; I think he was confused about the two processes. I explained the difference (at least I hope I gave him a sufficient explanation) and mentioned the use attainability analyses that were done for Livengood mining district and Red Dog.

Here's what I think: ADEC is planning to look into setting a site specific criterion for Fe, and that's all. But, we should talk with Pete McGee about it and he can give us some more insight. Allan did not seem to completely understand the difference between the two, so I cannot be sure what they are doing.

Hope this helps.

Phyllis

On 7/26/2010 6:36 PM, Ott, Alvin G (DFG) wrote:

518-732-0071 give Phyllis a call – she usually enjoys talking about these matters and she knows far more than I do – tell her I recommended that you give her a call.

From: Marie, Megan E (DFG)
Sent: Monday, July 26, 2010 1:04 PM
To: Benkert, Ronald C (DFG); Daigneault, Michael J (DFG); Ott, Alvin G (DFG)
Subject: RE: IronCriteriaReportTt_20100325.pdf

I am in the same position as Ron on "proposed use attainability analysis". Not exactly sure what that means.

Megan Marie
ADF&G Habitat
(907) 267-2446

From: Benkert, Ronald C (DFG)
Sent: Friday, July 16, 2010 10:44 AM
To: Daigneault, Michael J (DFG); Marie, Megan E (DFG); Ott, Alvin G (DFG)
Subject: RE: IronCriteriaReportTt_20100325.pdf

All:

I suspect this report is the first step in a strategy to request a variance in the state-wide water quality standards associated with PacRim's future NPDES/APDES permit application for the Chuitna coal project. I am not sure if that is any insight into a "proposed use attainability analysis", since I don't know what that means....

Ron

From: Daigneault, Michael J (DFG)
Sent: Friday, July 16, 2010 10:36 AM
To: Benkert, Ronald C (DFG); Marie, Megan E (DFG); Ott, Alvin G (DFG)
Subject: FW: IronCriteriaReportTt_20100325.pdf

FYI All,

Phyllis has spent some time reviewing and has questions/concerns – does anyone have any insight regarding the “proposed (?) use attainability analysis for the Chuit drainage”? Al, sounds like you have other formal comments from Phyllis. Has anyone spoken to Pete McGee or anyone else at ADEC regarding a deadline?

Thanks,

Mike

From: Phyllis [<mailto:Phyllis@lacewing.net>]
Sent: Friday, July 16, 2010 5:12 AM
To: Daigneault, Michael J (DFG)
Subject: Re: IronCriteriaReportTt_20100325.pdf

I looked over the report and had a few concerns. All of my concerns stemmed from the reason given for doing the site specific - that methods, etc. had changed since the iron criterion was set by EPA. The justification implies that the site specific amount should apply state-wide, and I am not sure that would be a good idea. Also, the report does not address physical damage (to gills, etc) from iron that is not dissolved. I think the iron limit proposed in the document is sufficiently conservative to protect against physical damage; however, I wish the authors had addressed the issue to prevent it from arising in the future. Canada has a stricter limit.

I have attached the documents I reviewed for my comments. Ask Al for a copy of my comments, or I can send them to you if he is ok with my doing so.

Can you fill me in on any details about the proposed (?) use attainability analysis for the Chuit drainage? Al wanted me to contact Allan Nakanishi (who I have never met) and talk with him about it. I am not sure what this is all about.

Sorry for not getting back to you earlier. It has been a crazy week. We are tearing off the front of our 260 year old house, destroying important starling and squirrel habitat, and hope to at least get the roof back on before the tail end of the latest hurricane hits, bringing torrential rains. I keep debating whether to call in a D-10 dozer or stay and fight. The D-10 idea is winning.

Phyllis

On 7/14/2010 6:06 PM, Daigneault, Michael J (DFG) wrote:

Phyllis,

I was just getting around to reviewing this, although I did not expect to have much insight to provide on the topic. I recall Al mentioning after this email that ADEC had contracted you directly to review their approach - is that correct? If so, do you have a timeline of when you might complete your review?

Thanks,

Mike

From: Ott, Alvin G (DFG)
Sent: Mon 6/28/2010 10:11 AM
To: Morris, William A (DFG); Daigneault, Michael J (DFG); Marie, Megan E (DFG); Benkert, Ronald C (DFG)
Cc: Phyllis@Lacewing.net
Subject: FW: IronCriteriaReportTt_20100325.pdf

Mike and Megan – this is in your area, please take a look and get back to Pete McGee – copy me with your comments. Bill if you have a chance please review and provide input to Mike and Megan.

Phyllis – if you interested and have some spare time, take a quick look and let us know what you think – you’ve dealt with some of these in the past.

From: McGee, William D (DEC)
Sent: Friday, June 25, 2010 9:40 AM
To: Ott, Alvin G (DFG)
Cc: Nakanishi, Allan S (DEC); George, Kenwyn P (DEC)
Subject: IronCriteriaReportTt_20100325.pdf

Al – We are reviewing requests for revised water quality criteria for the Chuit Drainage. The approach proposed in the attached document compares iron concentrations to biologic indexes and proposes site specific standards for the drainage. If you, or someone else you suggest, could review this proposal and give us some comments on the adequacy of the data and the justification for the proposed criteria I would appreciate it.

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Sent: Friday, June 25, 2010 9:40 AM

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Cc: Nakanishi, Allan S (DEC); George, Kenwyn P (DEC)

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Thanks

Pete

* IHP-10-021

Harold, Suzanne R (DFG)

From: Taylor, Tom (DFG)
Sent: Tuesday, January 10, 2012 8:54 AM
To: Harold, Suzanne R (DFG)
Subject: RE: IHP-10-021 FW: Contract & Chuitna Coal Project - SSC

IHP-10-021 has been replaced by IHP-12-047 which was sent to them on 12/29 for signature.

From: Harold, Suzanne R (DFG)
Sent: Tuesday, January 10, 2012 8:38 AM
To: Taylor, Tom (DFG)
Cc: Webb, Angela A (DFG)
Subject: RE: IHP-10-021 FW: Contract & Chuitna Coal Project - SSC

Hi Tom,
Just doing a follow up on the Status of this contract, as Al Ott is needing the information.

Thanks.
Suzanne

From: Harold, Suzanne R (DFG)
Sent: Monday, January 09, 2012 9:24 AM
To: Taylor, Tom (DFG)
Cc: Webb, Angela A (DFG)
Subject: RE: IHP-10-021 FW: Contract & Chuitna Coal Project - SSC

Good Morning Tom,
We are looking for the status of this contract? Can you tell me if it has been signed yet and do you have a copy.

Thanks.
Suzanne

From: Harold, Suzanne R (DFG)
Sent: Wednesday, December 28, 2011 9:45 AM
To: Taylor, Tom (DFG)
Cc: Webb, Angela A (DFG); Ott, Alvin G (DFG)
Subject: RE: IHP-10-021 FW: Contract & Chuitna Coal Project - SSC

Hi Tom,
Here is our contract in word for you be able to put together the rest of the contract to get this going to Scannell Scientific.
and all the funding sources for this contract is on the word document.

Thanks so much for your help and putting together the rest of the contract with the appendix's etc... together. Could you or would you then send me back the signed copies once you get them?

*Suzanne Harold
Alaska Dept. of Fish & Game
Division of Habitat*

Phone: (907)459-7280

From: Harold, Suzanne R (DFG)
Sent: Wednesday, December 21, 2011 12:31 PM
To: Taylor, Tom (DFG)
Subject: IHP-10-021 FW: Contract & Chuitna Coal Project - SSC

Hi Tom,

This is a follow up to my phone message as what we are needing for this contract. How would the best way to approach getting a new contract in place for the next 2 years?

I will be out of the office for this afternoon, but back tomorrow morning.

Thanks so much.

Suzanne

From: Ott, Alvin G (DFG)
Sent: Wednesday, December 21, 2011 12:00 PM
To: Harold, Suzanne R (DFG); Webb, Angela A (DFG)
Cc: Morris, William A (DFG)
Subject: FW: Contract & Chuitna Coal Project - SSC

Suzanne – please check to see what we need to do to reissue this contract with Phyllis for another two year period with a work scope not to exceed \$50,000 and let me know. Thank You.

From: Nakanishi, Allan S (DEC)
Sent: Wednesday, December 21, 2011 11:46 AM
To: Ott, Alvin G (DFG)
Cc: phyllisscannell@gmail.com; Nakanishi, Allan S (DEC)
Subject: Contract & Chuitna Coal Project - SSC

Hello All

I wanted to check in with you to see if the contract with Phyllis was still in place and if what we've set up for FY11 is still applicable for FY12. If not, I'd like to make a similar arrangement where costs for Phyllis's work on the Site Specific Criteria under the Chuitna Coal project were charged to your contract, but was reimbursed by reallocating RSA funds from DEC to DF&G.

We have not yet completed the Iron Criteria review and still require Phyllis's expertise in to complete this review. The working arrangement under the DF&G contract is very convenient and I hope that we can continue it!

Thanks!

-allan

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501

7HS03222

SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

Project Title: Chuitna Coal Mine, Site Specific for Iron
Kensington Technical Report

Agency Contract No. IHP-12-047 *SA*
CC:

EIN:

\$110.00 Hourly Rate
12.00 Total Hours this Period
\$1,320.00 Total Due this Invoice

8 hrs charge to Chuitna Coal proj: LC/CC 11822072-73751/ \$880.00
4 hrs charge to Kensington proj: LC/CC 11811042-73751/ \$440.00

Ok to pay - 2/24/12 - 11808 - *Suzanne Hurd*

INVOICE DATE

2/22/2012

PERIOD COVERED

1/1/2012 - 2/22/2012

Date Submitted	Project	Time	Product	Directed by	Agency
1/3/2012		3.00	review PacRim draft report	J. Powell	ADEC
1/5/2012		2.00	review PacRim draft report	J. Powell	ADEC
			teleconference with state and		
1/6/2012		1.50	PacRim	J. Powell	ADEC
			teleconference with state and		
1/11/2012		1.50	PacRim	J. Powell	ADEC
			review and comment on		
2/17/2012		4.00	Kensington draft report	J. Timothy, A. Ott	ADFG
Total Hours		12.00			

To - Tom Taylor 2/24/12
cc - Angie + Donna M.

INQ-WR: REFERENCE/WRNTS REPORT - WRNT CLASS: WM Pg 1 of 1 03/27/2012

REF: PVN PHS03222

SEL	WRT NUM	PAYEE	PRT DATE	AMOUNT
1	24699421	PHYLLIS KAY WEBER-SCANNELL	03/01/2012	420.00
2	24687497	PHYLLIS KAY WEBER-SCANNELL	02/22/2012	11,917.50
3	24405885	PHYLLIS KAY WEBER-SCANNELL	07/13/2011	7,392.00
4	24223435	PHYLLIS KAY WEBER-SCANNELL	02/22/2011	13,750.00
5	24167382	PHYLLIS KAY WEBER-SCANNELL	01/06/2011	10,972.50
6	24150000	PHYLLIS KAY WEBER-SCANNELL	12/21/2010	4,180.00

ENTER SELECTION==> ____ -OR- REF TYPE/NUM ____ WRT CLS ____
 ORDER(A/D): ____ SOURCE RD CODE: ____ THRU ____ WRT PRINT DATE: ____
 Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12---
 CONT QUIT VN/RD PFKYS HELP

DO NOT see invoice passed to Phyllis W
 # IHP-12-047 for \$1320- sent to
 Tara T. on 2/24/12
 -emailed him on 3/27/12 asked where it is?

Harold, Suzanne R (DFG)

From: Smith, Patricia G (HSS)
Sent: Tuesday, May 17, 2011 8:56 AM
To: Phyllis
Cc: Harold, Suzanne R (DFG)
Subject: FW: Work on Chuitna coal project
Attachments: chuitna invoice2.xlsx

Hi Phyllis, I've left DFG for HSS this past month, the new DFG contact is Suzanne Harold, she will be processing invoices now. Suzanne's email still points to DOT, but she is working at the DFG office, we are just waiting for HR to update her profile. I enjoyed working with you at a distance, take care.

Suzanne, Phyllis Weber-Scannell has a contract with us, she works closely with Al Ott. The Chuitna Coal Project is an Anchorage project and the invoice is coded to them. Make sure a copy of the invoice is sent to Donna Monaghan so they have the charges. The Contract w/ Phyllis was not encumbered because we charge to more than one project, but the process of sending the contract invoices to Tom Taylor is the same (see the file). Call me and I can help explain over the phone.

Thanks,
Patty

-----Original Message-----

From: Phyllis [<mailto:phyllisscannell@gmail.com>]
Sent: Tuesday, May 17, 2011 7:06 AM
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Patty,
Attached is the invoice for my work on the Chuitna Coal project I am doing for ADEC. Please call or email me if you have any questions. I have submitted my report to them, although there may be some modifications.
Thanks,
Phyllis

STANDARD AGREEMENT FORM FOR PROFESSIONAL SERVICES

1. Agency Contract Number IHP-12-047	2. ASPS Number	3. Financial Coding	4. Agency Assigned Encumbrance Number
5. Vendor Number	6. Project/Case Number	7. Alaska Business License Number	

This contract is between the State of Alaska,

8. Department of Fish and Game	Division Habitat	hereafter the State, and
-----------------------------------	---------------------	--------------------------

9. Contractor Scannell Scientific	hereafter the Contractor
--------------------------------------	--------------------------

Mailing Address	Street or P.O. Box	City	State	ZIP+4
	1235 Schodack Landing Road	Schodack Landing	New York	12156

10.	<p>ARTICLE 1. Appendices: Appendices referred to in this contract and attached to it are considered part of it.</p> <p>ARTICLE 2. Performance of Service:</p> <p>2.1 Appendix A (General Provisions), Articles 1 through 14, governs the performance of services under this contract.</p> <p>2.2 Appendix B sets forth the liability and insurance provisions of this contract.</p> <p>2.3 Appendix C sets forth the services to be performed by the contractor.</p> <p>ARTICLE 3. Period of Performance: The period of performance for this contract begins January 1, 2012 and ends December 31, 2014.</p> <p>ARTICLE 4. Considerations:</p> <p>4.1 In full consideration of the contractor's performance under this contract, the State shall pay the contractor a sum not to exceed \$50,000.00 in accordance with the provisions of Appendix D.</p> <p>4.2 When billing the State, the contractor shall refer to the Authority Number or the Agency Contract Number and send the billing to:</p>
-----	---

11. Department of Fish and Game	Attention: Division of Habitat
Mailing Address P.O. Box 115526 Juneau, Alaska 99811-5526	Attention: Angela Webb

<p>12. CONTRACTOR</p> <p>Name of Firm Scannell Scientific</p> <p>Signature of Authorized Representative <i>Phyllis Weber Scannell</i> Date 1-6-2012</p> <p>Typed or Printed Name of Authorized Representative Phyllis Weber Scannell</p> <p>Title Owner</p>	<p>14. CERTIFICATION: I certify that the facts herein and on supporting documents are correct, that this voucher constitutes a legal charge against funds and appropriations cited, that sufficient funds are encumbered to pay this obligation, or that there is a sufficient balance in the appropriation cited to cover this obligation. I am aware that to knowingly make or allow false entries or alterations on a public record, or knowingly destroy, mutilate, suppress, conceal, remove or otherwise impair the verity, legibility or availability of a public record constitutes tampering with public records punishable under AS 11.56.815-.820. Other disciplinary action may be taken up to and including dismissal.</p>
<p>13. CONTRACTING AGENCY</p> <p>Department/Division Habitat Date 01-20-2012</p> <p>Signature of Project Director <i>Randy Bates</i></p> <p>Typed or Printed Name of Project Director Randy Bates</p> <p>Title Director</p>	<p>Signature of Head of Contracting Agency or Designee <i>John White</i> Date</p> <p>Typed or Printed Name John White</p> <p>Title Procurement Officer</p>

NOTICE: This contract has no effect until signed by the head of contracting agency or designee.

APPENDIX A - GENERAL PROVISIONS

Article 1. Definitions.

- 1.1 In this contract and appendices, "Project Director" or "Agency Head" or "Procurement Officer" means the person who signs this contract on behalf of the Requesting Agency and includes a successor or authorized representative.
- 1.2 "State Contracting Agency" means the department for which this contract is to be performed and for which the Commissioner or Authorized Designee acted in a signing this contract.

Article 2. Inspection and Reports.

- 2.1 The department may inspect, in the manner and at reasonable times it considers appropriate, all the contractor's facilities and activities under this contract.
- 2.2 The contractor shall make progress and other reports in the manner and at the times the department reasonably requires.

Article 3. Disputes.

- 3.1 Any dispute concerning a question of fact arising under this contract which is not disposed of by mutual agreement shall be decided in accordance with AS 36.30.620-632.

Article 4. Equal Employment Opportunity.

- 4.1 The contractor may not discriminate against any employee or applicant for employment because of race, religion, color, national origin, or because of age, disability, sex, marital status, changes in marital status, pregnancy or parenthood when the reasonable demands of the position(s) do not require distinction on the basis of age, disability, sex, marital status, changes in marital status, pregnancy, or parenthood. The contractor shall take affirmative action to insure that the applicants are considered for employment and that employees are treated during employment without unlawful regard to their race, color, religion, national origin, ancestry, disability, age, sex, marital status, changes in marital status, changes in marital status, pregnancy or parenthood. This action must include, but need not be limited to, the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting out the provisions of this paragraph.
- 4.2 The contractor shall state, in all solicitations or advertisements for employees to work on State of Alaska contract jobs, that it is an equal opportunity employer and that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, disability, sex, marital status, changes in marital status, pregnancy or parenthood.
- 4.3 The contractor shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' compensation representative of the contractor's commitments under this article and post copies of the notice in conspicuous places available to all employees and applicants for employment.
- 4.4 The contractor shall include the provisions of this article in every contract, and shall require the inclusion of these provisions in every contract entered into by any of its subcontractors, so that those provisions will be binding upon each subcontractor. For the purpose of including those provisions in any contract or subcontract, as required by this contract, "contractor" and "subcontractor" may be changed to reflect appropriately the name or designation of the parties of the contract or subcontract.
- 4.5 The contractor shall cooperate fully with State efforts which seek to deal with the problem of unlawful discrimination, and with all other State efforts to guarantee fair employment practices under this contract, and promptly comply with all requests and directions from the State Commission for Human Rights or any of its officers or agents relating to prevention of discriminatory employment practices.
- 4.6 Full cooperation in paragraph 4.5 includes, but is not limited to, being a witness in any proceeding involving questions of unlawful discrimination if that is requested by any official or agency of the State of Alaska; permitting employees of the contractor to be witnesses or complainants in any proceeding involving questions of unlawful discrimination, if that is requested by any official or agency of the State of Alaska; participating in meetings; submitting periodic reports on the equal employment aspects of present and future employment; assisting inspection of the contractor's facilities; and promptly complying with all State directives considered essential by any office or agency of the State of Alaska to insure compliance with all federal and State laws, regulations, and policies pertaining to the prevention of discriminatory employment practices.
- 4.7 Failure to perform under this article constitutes a material breach of the contract.

Article 5. Termination.

The Project Director, by written notice, may terminate this contract, in whole or in part, when it is in the best interest of the State. The State is liable only for payment in accordance with the payment provisions of this contract for services rendered before the effective date of termination.

Article 6. No Assignment or Delegation.

The contractor may not assign or delegate this contract, or any part of it, or any right to any of the money to be paid under it, except with the written consent of the Project Director and the Agency Head.

Article 7. No Additional Work or Material.

No claim for additional services, not specifically provided in this contract, performed or furnished by the contractor, will be allowed, nor may the contractor do any work or furnish any material not covered by the contract unless the work or material is ordered in writing by the Project Director and approved by the Agency Head.

Article 8. Independent Contractor.

The contractor and any agents and employees of the contractor act in an independent capacity and are not officers or employees or agents of the State in the performance of this contract.

Article 9. Payment of Taxes.

As a condition of performance of this contract, the contractor shall pay all federal, State, and local taxes incurred by the contractor and shall require their payment by any Subcontractor or any other persons in the performance of this contract. Satisfactory performance of this paragraph is a condition precedent to payment by the State under this contract.

Article 10. Ownership of Documents.

All designs, drawings, specifications, notes, artwork, and other work developed in the performance of this agreement are produced for hire and remain the sole property of the State of Alaska and may be used by the State for any other purpose without additional compensation to the contractor. The contractor agrees not to assert any rights and not to establish any claim under the design patent or copyright laws. The contractor, for a period of three years after final payment under this contract, agrees to furnish and provide access to all retained materials at the request of the Project Director. Unless otherwise directed by the Project Director, the contractor may retain copies of all the materials.

Article 11. Governing Law.

This contract is governed by the laws of the State of Alaska. All actions concerning this contract shall be brought in the Superior Court of the State of Alaska.

Article 12. Conflicting Provisions.

Unless specifically amended and approved by the Department of Law the General Provisions of this contract supersede any provisions in other appendices.

Article 13. Officials Not to Benefit.

Contractor must comply with all applicable federal or State laws regulating ethical conduct of public officers and employees.

Article 14. Covenant Against Contingent Fees.

The contractor warrants that no person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee except employees or agencies maintained by the contractor for the purpose of securing business. For the breach or violation of this warranty, the State may terminate this contract without liability or in its discretion deduct from the contract price or consideration the full amount of the commission, percentage, brokerage or contingent fee.

APPENDIX B¹
INDEMNITY AND INSURANCE

Article 1. Indemnification

The Contractor shall indemnify, hold harmless, and defend the contracting agency from and against any claim of, or liability for error, omission or negligent act of the Contractor under this agreement. The Contractor shall not be required to indemnify the contracting agency for a claim of, or liability for, the independent negligence of the contracting agency. If there is a claim of, or liability for, the joint negligent error or omission of the Contractor and the independent negligence of the Contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. "Contractor" and "Contracting agency", as used within this and the following article, include the employees, agents and other contractors who are directly responsible, respectively, to each. The term "independent negligence" is negligence other than in the Contracting agency's selection, administration, monitoring, or controlling of the Contractor and in approving or accepting the Contractor's work.

Article 2. Insurance

Without limiting Contractor's indemnification, it is agreed that Contractor shall purchase at its own expense and maintain in force at all times during the performance of services under this agreement the following policies of insurance. Where specific limits are shown, it is understood that they shall be the minimum acceptable limits. If the Contractor's policy contains higher limits, the state shall be entitled to coverage to the extent of such higher limits. Certificates of Insurance must be furnished to the Contracting Officer prior to beginning work and must provide for a 30-day prior notice of cancellation, nonrenewal or material change of conditions. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach of this contract and shall be grounds for termination of the Contractor's services. All insurance policies shall comply with, and be issued by insurers licensed to transact the business of insurance under AS 21.

2.1 Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the State.

2.2 Commercial General Liability Insurance: covering all business premises and operations used by the Contractor in the performance of services under this agreement with minimum coverage limits of \$300,000 combined single limit per occurrence.

2.3 Commercial Automobile Liability Insurance: covering all vehicles used by the Contractor in the performance of services under this agreement with minimum coverage limits of \$300,000 combined single limit per occurrence.

APPENDIX C

SCOPE OF SERVICES

Background/Authority

Alaska Department of Fish and Game, Division of Habitat (ADF&G) has played a key role in design and oversight of several biomonitoring programs for hard rock mines, which enable the Division of Habitat to fulfill its core mission and mitigate impacts to fish and wildlife associated with large mine developments. Until recently, Division of Habitat employed staff who provided comprehensive oversight of aquatic biomonitoring programs for all new and operating hard rock mines statewide.

ADF&G enters into this agreement under authority of Alaska Statute AS 36.30.850(b) (20).

Scope of Work

Contractor will provide scoping comments, recommendations, and fish and wildlife impact analyses to the Division of Habitat on water quality, solid waste disposal permits, aquatic toxicology, and other related issues associated with large mine projects in or potentially affecting Alaska. Contractor will design biomonitoring programs to evaluate the effects, if any, of water quality changes from large-scale mine development projects on fish and wildlife. Contractor will assist the Division of Habitat in (1) the development of appropriate biomonitoring programs, (2) evaluation of monitoring program data and preparations of component elements of the Division of Habitat's annual technical reports for these projects, (3) evaluation of mine impact assessments, (4) assist with technical input with respect to new permits (state and federal) or modifications to existing permits; (5) provide technical analyses and literature reviews regarding toxicity of contaminants; and (6) on request, provide review comments on key mine development documents. The Division of Habitat staff will continue to actually conduct permit reviews and field studies. **Projects include, but are not limited to: Red Dog, Gil, Fort Knox/True North, Ryan Lode, Nixon Fork, Rock Creek, Donlin Creek, Greens Creek, Kensington, Pogo, Pebble Copper, Niblack, Galore Creek, Schaft Creek, Eskay Creek, Chuitna Coal, and Tulsequah Chief.**

Contractor also will assist the Division of Habitat with the annual preparation of Technical Reports for monitoring activities associated with Red Dog Mine Projects, including independently updating the water quality data files annually.

Contractor may be required to travel to Seattle, Anchorage, and/or Fairbanks to meet with industry, State of Alaska, or Federal agency personnel. All travel must be pre-approved in writing by the Division of Habitat.

APPENDIX D
FINANCIAL CONSIDERATIONS

The total amount of this contract is not to exceed \$50,000.00. Payment(s) shall be made upon submission of approved invoices.

Aquatic Toxicology for Large Mine Projects

Contractor:

Scannell Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156
518-732-0071 phone
518-732-4361 fax
Phyllis@lacewing.net
Alaska Business License No. 908201

The contract will be for two years. Anticipated period of performance is January 1, 2012 through December 31, 2014 and is estimated not to exceed \$50,000 for all services requested.

Background and Project Goals:

Alaska Department of Fish and Game, Division of Habitat has played a key role in design and oversight of several biomonitoring programs for hard rock mines, which enable the Division of Habitat to fulfill its core mission and mitigate impacts to fish and wildlife associated with large mine developments. Until recently, Division of Habitat employed staff who provided comprehensive oversight of aquatic biomonitoring programs for all new and operating hard rock mines statewide.

The expertise and professionalism the Division of Habitat has provided for over a decade, is respected by the mining industry and state and federal regulators. It is in the state's best interest to hire a contractor who meets the minimum qualifications in order to maintain program continuity at the highest possible level.

Scope of Work:

Contractor will provide scoping comments, recommendations, and fish and wildlife impact analyses to the Division of Habitat on water quality, solid waste disposal permits, aquatic toxicology, and other related issues associated with large mine projects in or potentially affecting Alaska. Contractor will design biomonitoring programs to evaluate the effects, if any, of water quality changes from large-scale mine development projects on fish and wildlife. Contractor will assist the Division of Habitat in (1) the development of appropriate biomonitoring programs, (2) evaluation of monitoring program data and preparations of component elements of the Division of Habitat's annual technical reports for these projects, (3) evaluation of mine impact assessments, (4) assist with technical input with respect to new permits (state and federal) or modifications to existing permits; (5) provide technical analyses and literature reviews regarding toxicity of contaminants; and (6) on request, provide review comments on key mine development documents. The Division of Habitat staff will continue to actually conduct permit reviews and field studies. **Projects include, but are not limited to: Red Dog, Gil, Fort Knox/True North, Ryan Lode, Nixon Fork, Rock Creek, Donlin Creek, Greens Creek,**

Kensington, Pogo, Pebble Copper, Niblack, Galore Creek, Schaft Creek, Eskay Creek, Chuitna Coal, and Tulsequah Chief.

Contractor also will assist the Division of Habitat with the annual preparation of Technical Reports for monitoring activities associated with Red Dog Mine Projects, including independently updating the water quality data files annually.

Contractor may be required to travel to Seattle, Anchorage, and/or Fairbanks to meet with industry, State of Alaska, or Federal agency personnel. All travel must be pre-approved in writing by the Division of Habitat. Travel expenses will be reimbursed by the Division of Habitat in accordance with AS 39.20.160 and AAM 60.010 – 60.290.

Proposed Deliverables and Schedule:

The schedule of deliverables is currently undetermined and is largely dependent on progress and development stages of various mines. The specific scopes of work relative to projects included in this contract will be detailed in writing as addendums to this contract.

POSSIBLE FUNDING SOURCES FOR SCANNELL SCIENTIFIC				
	GR	AR	CC	LC
RED DOG RSA	44222	42884	11833072	11833072
FORT KNOX/TRUE NORTH	44225	42887	11833102	11833102
ROCK CREEK RSA	44223	42885	11833082	11833082
DONLIN CREEK RSA	44224	44486	11833152	11833152
GREENS CREEK RSA	44226	42889	11833112	11833112
KENSINGTON RSA	44217	42878	11811042	11811042
POGO RSA	44221	42883	11833062	11833062
PEBBLE COPPER RSA	44219	42880	11822152	11822152
NIBLACK RSA	44227	42890	11855052	11855052
CHUITNA COAL	44220	42881	11822072	11822072

STANDARD AGREEMENT FORM FOR PROFESSIONAL SERVICES

1. Agency Contract Number IHP-10-021		2. ASPS Number		3. Financial Coding		4. Agency Assigned Encumbrance Number	
5. Vendor Number		6. Project/Case Number			7. Alaska Business License Number		
This contract is between the State of Alaska,							
8. Department of Fish and Game				Division Habitat		hereafter the State, and	
9. Contractor Scannell Scientific				hereafter the Contractor			
Mailing Address		Street or P.O. Box		City		State ZIP+4	
		1235 Schodack Landing Road		Schodack Landing		New York 12156	
<p>10. ARTICLE 1. Appendices: Appendices referred to in this contract and attached to it are considered part of it.</p> <p>ARTICLE 2. Performance of Service:</p> <p>2.1 Appendix A (General Provisions), Articles 1 through 14, governs the performance of services under this contract.</p> <p>2.2 Appendix B sets forth the liability and insurance provisions of this contract.</p> <p>2.3 Appendix C sets forth the services to be performed by the contractor.</p> <p>ARTICLE 3. Period of Performance: The period of performance for this contract begins January 1, 2010 and ends December 31, 2011. <i>5/12</i></p> <p>ARTICLE 4. Considerations:</p> <p>4.1 In full consideration of the contractor's performance under this contract, the State shall pay the contractor a sum not to exceed \$50,000.00 in accordance with the provisions of Appendix D.</p> <p>4.2 When billing the State, the contractor shall refer to the Authority Number or the Agency Contract Number and send the billing to:</p>							
11. Department of Fish and Game				Attention: Division of Habitat			
Mailing Address P.O. Box 115526 Juneau, Alaska 99811-5526				Attention: Becky Nelson			
<p>12. CONTRACTOR</p> <p>Name of Firm Scannell Scientific</p> <p>Signature of Authorized Representative <i>Phyllis Weber Scannell</i> Date <i>8/14/09</i></p> <p>Typed or Printed Name of Authorized Representative Phyllis Weber Scannell</p> <p>Title Owner</p>				<p>14. CERTIFICATION: I certify that the facts herein and on supporting documents are correct, that this voucher constitutes a legal charge against funds and appropriations cited, that sufficient funds are encumbered to pay this obligation, or that there is a sufficient balance in the appropriation cited to cover this obligation. I am aware that to knowingly make or allow false entries or alterations on a public record, or knowingly destroy, mutilate, suppress, conceal, remove or otherwise impair the verity, legibility or availability of a public record constitutes tampering with public records punishable under AS 11.56.815-.820. Other disciplinary action may be taken up to and including dismissal.</p>			
<p>13. CONTRACTING AGENCY</p> <p>Department/Division Habitat</p> <p>Signature of Project Director <i>Kerry Howard</i> Date <i>8/14/09</i></p> <p>Typed or Printed Name of Project Director Kerry Howard</p> <p>Title Director</p>				<p>Signature of Head of Contracting Agency or Designee <i>John White</i> Date</p> <p>Typed or Printed Name John White</p> <p>Title Procurement Officer</p>			

NOTICE: This contract has no effect until signed by the head of contracting agency or designee.

02-093 (12/03/02)

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APPENDIX A

GENERAL PROVISIONS

Article 1. Definitions.

- 1.1 In this contract and appendices, "Project Director" or "Agency Head" or "Procurement Officer" means the person who signs this contract on behalf of the Requesting Agency and includes a successor or authorized representative.
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- 4.2 The contractor shall state, in all solicitations or advertisements for employees to work on State of Alaska contract jobs, that it is an equal opportunity employer and that all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, age, disability, sex, marital status, changes in marital status, pregnancy or parenthood.
- 4.3 The contractor shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising the labor union or workers' compensation representative of the contractor's commitments under this article and post copies of the notice in conspicuous places available to all employees and applicants for employment.
- 4.4 The contractor shall include the provisions of this article in every contract, and shall require the inclusion of these provisions in every contract entered into by any of its subcontractors, so that those provisions will be binding upon each subcontractor. For the purpose of including those provisions in any contract or subcontract, as required by this contract, "contractor" and "subcontractor" may be changed to reflect appropriately the name or designation of the parties of the contract or subcontract.
- 4.5 The contractor shall cooperate fully with State efforts which seek to deal with the problem of unlawful discrimination, and with all other State efforts to guarantee fair employment practices under this contract, and promptly comply with all requests and directions from the State Commission for Human Rights or any of its officers or agents relating to prevention of discriminatory employment practices.
- 4.6 Full cooperation in paragraph 4.5 includes, but is not limited to, being a witness in any proceeding involving questions of unlawful discrimination if that is requested by any official or agency of the State of Alaska; permitting employees of the contractor to be witnesses or complainants in any proceeding involving questions of unlawful discrimination, if that is requested by any official or agency of the State of Alaska; participating in meetings; submitting periodic reports on the equal employment aspects of present and future employment; assisting inspection of the contractor's facilities; and promptly complying with all State directives considered essential by any office or agency of the State of Alaska to insure compliance with all federal and State laws, regulations, and policies pertaining to the prevention of discriminatory employment practices.
- 4.7 Failure to perform under this article constitutes a material breach of the contract.

Article 5. Termination.

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Aquatic Toxicology for Large Mine Projects

Contractor:

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Phyllis Weber Scannell, PhD
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518-732-0071 phone
518-732-4361 fax
Phyllis@lacewing.net
Alaska Business License No. 908201

The contract will be for two years. Anticipated period of performance is January 1, 2010 through December 31, 2011 and is estimated not to exceed \$50,000 for all services requested.

Background and Project Goals:

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The expertise and professionalism the Division of Habitat has provided for over a decade, is respected by the mining industry and state and federal regulators. It is in the state's best interest to hire a contractor who meets the minimum qualifications in order to maintain program continuity at the highest possible level.

Scope of Work:

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Kensington, Pogo, Pebble Copper, Niblack, Galore Creek, Schaft Creek, Eskay Creek, and Tulsequah Chief.

Contractor will also assist the Division of Habitat with the annual preparation of Technical Reports for monitoring activities associated with Red Dog Mine Projects, including independently updating the water quality data files annually.

Contractor may be required to travel to Seattle, Anchorage, and/or Fairbanks to meet with industry, State of Alaska, or Federal agency personnel. All travel must be pre-approved in writing by the Division of Habitat. Travel expenses will be reimbursed by the Division of Habitat in accordance with AS 39.20.160 and AAM 60.010 – 60.290.

Proposed Deliverables and Schedule:

The schedule of deliverables is currently undetermined and is largely dependent on progress and development stages of various mines. The specific scopes of work relative to projects included in this contract will be detailed in writing as addendums to this contract.

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POGO RSA	44219	42883	11833062	11833062
PEBBLE COPPER RSA	44219	42880	11822152	11822152
NIBLACK RSA	44227	42890	11855052	11855052
TULSEQUAH CHIEF RSA	44218	42879	11811052	11811052

APPENDIX C

SCOPE OF SERVICES

Background and Project Goals

Alaska Department of Fish and Game, Division of Habitat has played a key role in design and oversight of several biomonitoring programs for hard rock mines, which enable the Division of Habitat to fulfill its core mission and mitigate impacts to fish and wildlife associated with large mine developments. Until recently, Division of Habitat employed staff who provided comprehensive oversight of aquatic biomonitoring programs for all new and operating hard rock mines statewide.

Scope of Work

Contractor will provide scoping comments, recommendations, and fish and wildlife impact analyses to the Division of Habitat on water quality, solid waste disposal permits, aquatic toxicology, and other related issues associated with large mine projects in or potentially affecting Alaska. Contractor will design biomonitoring programs to evaluate the effects, if any, of water quality changes from large-scale mine development projects on fish and wildlife. Contractor will assist the Division of Habitat in (1) the development of appropriate biomonitoring programs, (2) evaluation of monitoring program data and preparations of component elements of the Division of Habitat's annual technical reports for these projects, (3) evaluation of mine impact assessments, (4) assist with technical input with respect to new permits (state and federal) or modifications to existing permits; (5) provide technical analyses and literature reviews regarding toxicity of contaminants; and (6) on request, provide review comments on key mine development documents. The Division of Habitat staff will continue to actually conduct permit reviews and field studies. **Projects include, but are not limited to: Red Dog, Gil, Fort Knox/True North, Ryan Lode, Nixon Fork, Rock Creek, Donlin Creek, Greens Creek, Kensington, Pogo, Pebble Copper, Niblack, Galore Creek, Schaft Creek, Eskay Creek, and Tulsequah Chief.** Contractor will also assist the Division of Habitat with the annual preparation of Technical Reports for monitoring activities associated with Red Dog Mine Projects, including independently updating the water quality data files annually.

Contractor may be required to travel to Seattle, Anchorage, and/or Fairbanks to meet with industry, State of Alaska, or Federal agency personnel. All travel must be pre-approved in writing by the Division of Habitat. Travel expenses will be reimbursed by the Division of Habitat in accordance with AS 39.20.160 and AAM 60.010 – 60.290.

APPENDIX B¹
INDEMNITY AND INSURANCE

Article 1. Indemnification

The Contractor shall indemnify, hold harmless, and defend the contracting agency from and against any claim of, or liability for error, omission or negligent act of the Contractor under this agreement. The Contractor shall not be required to indemnify the contracting agency for a claim of, or liability for, the independent negligence of the contracting agency. If there is a claim of, or liability for, the joint negligent error or omission of the Contractor and the independent negligence of the Contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. "Contractor" and "Contracting agency", as used within this and the following article, include the employees, agents and other contractors who are directly responsible, respectively, to each. The term "independent negligence" is negligence other than in the Contracting agency's selection, administration, monitoring, or controlling of the Contractor and in approving or accepting the Contractor's work.

Article 2. Insurance

Without limiting Contractor's indemnification, it is agreed that Contractor shall purchase at its own expense and maintain in force at all times during the performance of services under this agreement the following policies of insurance. Where specific limits are shown, it is understood that they shall be the minimum acceptable limits. If the Contractor's policy contains higher limits, the state shall be entitled to coverage to the extent of such higher limits. Certificates of Insurance must be furnished to the Contracting Officer prior to beginning work and must provide for a 30-day prior notice of cancellation, nonrenewal or material change of conditions. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach of this contract and shall be grounds for termination of the Contractor's services. All insurance policies shall comply with, and be issued by insurers licensed to transact the business of insurance under AS 21.

2.1 Workers' Compensation Insurance: The Contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the State.

2.2 Commercial General Liability Insurance: covering all business premises and operations used by the Contractor in the performance of services under this agreement with minimum coverage limits of \$300,000 combined single limit per occurrence.

2.3 Commercial Automobile Liability Insurance: covering all vehicles used by the Contractor in the performance of services under this agreement with minimum coverage limits of \$300,000 combined single limit per occurrence.

APPENDIX D
FINANCIAL CONSIDERATIONS

The total amount of this contract is not to exceed \$50,000.00. Payment(s) shall be made upon submission of approved invoices.

7/12/11

SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

To Tom Taylor - Please Pay.

Reference IHP 10-021

11822072-11822072-73751

IHP-08-136

ASP#

CC:

EIN:

\$110.00 Hourly Rate

67.20 Total Hours this Period

\$7,392.00	Total Due this Invoice
------------	------------------------

INVOICE DATE

5/17/2011

PERIOD COVERED

3/1/2011 - 5/15/2011Seymour
H. Gold

Date Submitted	Project	Time	Product	Directed by
3/2/2011	Chuitna Coal	4.00	revised water data	J. Powell
3/3/2011	Chuitna Coal	4.00	revised water data	J. Powell
3/4/2011	Chuitna Coal	5.00	revised water data	J. Powell
3/5/2011	Chuitna Coal	4.00	revised water data	J. Powell
3/6/2011	Chuitna Coal	3.50	revised water data	J. Powell
3/7/2011	Chuitna Coal	4.00	revised water data	J. Powell
3/8/2011	Chuitna Coal	4.00	revised water data	J. Powell
3/9/2011	Chuitna Coal	3.50	revised water data	J. Powell
3/16/2011	Chuitna Coal	3.00	sent draft of revised water data	J. Powell
4/18/2011	Chuitna Coal	1.50	telconference	J. Powell
4/22/2011	Chuitna Coal	1.50	telconference	J. Powell
4/23/2011	Chuitna Coal	4.00	review of Tetra Tech, write comments	J. Powell
4/24/2011	Chuitna Coal	1.45	teleconference	J. Powell
4/25/2011	Chuitna Coal	4.00	review of Tetra Tech, write comments	J. Powell
4/26/2011	Chuitna Coal	1.75	telconference	J. Powell
4/26/2011	Chuitna Coal	5.00	review of Tetra Tech, write comments	J. Powell
4/27/2011	Chuitna Coal	4.00	review of Tetra Tech, write comments	J. Powell
4/28/2011	Chuitna Coal	3.00	review of Tetra Tech, write comments	J. Powell
4/29/2011	Chuitna Coal	3.50	teleconference	J. Powell
4/30/2011	Chuitna Coal	2.50	teleconference	J. Powell
Total Hours		67.20		

Email Copy to Jennifer:

Emailed 7/12/11
 Tom Taylor
 2006.1 Nolon

**Review of the Development of a Site-Specific Iron Water Quality Criterion for
the Chuit River Drainage, Alaska**

**For
Alaska Department of Environmental Conservation**

By

**Phyllis Weber Scannell
Scannell Scientific**

April 30, 2011

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Introduction

The Chuitna Watershed has been divided into 5 different drainages: Watershed 20, Watershed 2004, Watershed 2003, Watershed 2002 and Watershed 40 (Reference Fig. 1, taken from Riverside Technologies 2007). The boundaries of the proposed coal project lie within Watersheds 2002 and 2003 and adjacent to Watershed 2004.

The draft document "Development of a Site-Specific Iron Water Quality Criterion for the Chuit River Drainage, Alaska" by Tetra Tech Inc. lists justifications for setting a site specific criterion that are based on the following:

1. Some of the waterways in the Chuitna Drainage are naturally high in total iron;
2. Waterways in the Chuitna Drainage have circumneutral or slightly basic pH. The combination of circumneutral pH and organic matter results in lower iron toxicity because the iron forms colloidal complexes and does not form heavy precipitates; and
3. The biotic communities in the Chuitna Drainage do not appear to be limited by iron concentrations.

The proposed site specific criterion for iron (Tetra Tech, Inc. 2011) recommends a limit for total iron of 3 mg/L for the Chuitna Watershed. Separate streams and stream reaches are not delineated in the draft request. The Site Specific Request is based on the premise that naturally high iron concentrations occur in waterways of the Chuitna Basin that also support a diverse biological community, including salmonid fish. The proposed Site Specific Request states that the circumneutral pH and oxygenated conditions of these watersheds causes the iron to form a relatively unavailable iron complex that is mostly colloidal. The prevalence of dissolved and fine particulate organic matter likely contributes to the formation of colloidal suspensions and retention of dissolved iron (Deng and Strumm 1994, Pullin and Cabaniss 2003).

This document provides a review of the Tetra Tech Report and additional information to augment the data presented by Tetra Tech. The review contains the following sections:

1. A brief discussion of published studies of effects of iron on aquatic organisms;
2. A detailed analysis of the available water quality data for watersheds in the Chuitna Drainage, discussed below and summarized on Table 1 and Figures 36-39 at the end of the document;
3. Information on the distribution of fish species in the Chuit Drainage, including the stream regions designated by Alaska Department of Fish and Game as important for the spawning, rearing or migration of anadromous fish;
4. A discussion of the Tetra Tech report, "Development of a Site-Specific Iron Water Quality Criterion for the Chuit River Drainage, Alaska," and
5. Identification of remaining questions about iron concentrations in the Chuitna Drainage and effects on aquatic biota.

Background Literature

Most studies on effects of iron to aquatic organisms were conducted as part of other studies, such as evaluations of acid mine drainage at low pH or inputs of combinations of metals. Other studies of iron effects were conducted more than 20 years ago, and testing protocols are likely different than those used today. For example, Dave (1985) tested the effects of iron on hatch and survival of zebra fish at different pH levels. Median survival times were not reduced after 48-hr exposures to iron concentrations from 0.5 to 32 mg Fe/l at pH levels of 5, 7, and 9. Mortality occurred after 5 days exposure to 4 mg/L iron at pH 4.

Updegraff and Sykora (1976, reported by Dave 1985) reported that coho salmon avoided iron hydroxide suspensions of 4.3 to 6.5 mg/L. Brenner and Cooper (1978) exposed coho salmon to 3 mg/L ferric hydroxide and found no effects on embryonic development, hatchability, survival and maturation of coho salmon alevins.

Dalzell and McFarlane (1999) reported a 96-h LC₅₀ on brown trout *Salmo trutta* of a commercial iron (III) sulphate liquor, used for treating reservoirs to reduce algal growth, was 28 mg total Fe/L (0.05 mg soluble Fe/L). The 96-h LC₅₀ for iron (III) sulphate was 47 mg total Fe/L (0.24 mg soluble Fe/L). According to Dalzell and McFarland, "Lethal and sublethal exposure to both grades of iron resulted in accumulation on the gill, which appears to be the main target for iron toxicity. Greater iron accumulation occurred during exposure to commercial iron sulphate liquor. Physical clogging of gills and gill damage was seen during lethal and sublethal exposure to iron. Gill tissue analysis showed no evidence of iron uptake into gill tissues during lethal or sublethal exposure to iron. Iron did not accumulate in plasma of fish exposed to iron compared to controls. Respiratory disruption due to physical clogging of the gills is suggested as a possible mechanism for iron toxicity." Note that the 96-h LC₅₀ concentrations reported by Dalzell and McFarlane are considerably higher than total iron concentrations found in the Chuitna Drainage.

Phippen et al. (2008) presents an extensive review of studies on effects of iron to aquatic organisms. Results of these studies were used in the development of iron water quality criteria for the Province of British Columbia. According to their review, early life stages of fish are the most sensitive to iron. According to the supporting document for the guideline, (References in the quote are given in Phippen et al.).

The life stage of fish exposed to iron is very important in terms of long-term impact. In a number of studies, different life stages of three species of fish (fathead minnow, coho salmon and brook trout) were examined for sensitivity to lime-neutralized iron hydroxide. The safe upper limit of lime-neutralized iron in suspension for survival, growth, and reproduction of the fathead minnow was between 0.29 and 1.87 mg/L iron and the initial deleterious effect occurred during the egg incubation stage (Smith *et al.* 1973). For coho, the safe upper limit lay between 0.97 and 1.27 mg/L (lime-neutralized suspended) iron, with initial deleterious effect occurring during the early alevin development stage (Smith and Sykora 1976). Finally, the safe upper limit for brook trout was between 7.5 and

12.5 mg/L (lime-neutralized suspended) iron, with deleterious effects occurring during the juvenile development stage (Sykora *et al.* 1972a, 1972b, 1975 cited in Smith and Sykora 1976). Highly sensitive fish appear to be affected by lime-neutralized iron hydroxide suspensions earlier in their life history than species of lower sensitivity (Smith and Sykora 1976)

Literature cited by Tetra Tech that addressed studies on the effects of iron to benthic invertebrates show toxicities at substantially higher concentrations than occur in the Chuitna Drainage. For example, Gerhardt (1994) reported a 96 h-LC value for Fe of 106.3 mg Fe/L at pH 7 and 89.5 mg Fe/L at pH 4.5. Results of many studies are confounded by the presence of additional metals ((Cu, Mn, Ni and Zn) or low pH (e.g. Milam and Farris 1998 and Linton et al. 2007).

No studies were found in published literature that specifically addressed the form of iron found in the Chuitna drainage and its effects to aquatic species.



Figure 1. Map of proposed project area showing watersheds. The light gray polygon delineates the proposed project area. Map taken from Riverside Technologies, Inc. 2007.

Water Quality and Biological Data, Watershed 20

Water Quality

Watershed 20 contains the Chuit River, the receiving water for streams that drain the proposed mine site and the region of the project facilities. The headwaters of Watershed 20 contain a number of monitoring sites that are upstream of 2004 Creek, a drainage on the west edge of the proposed project.

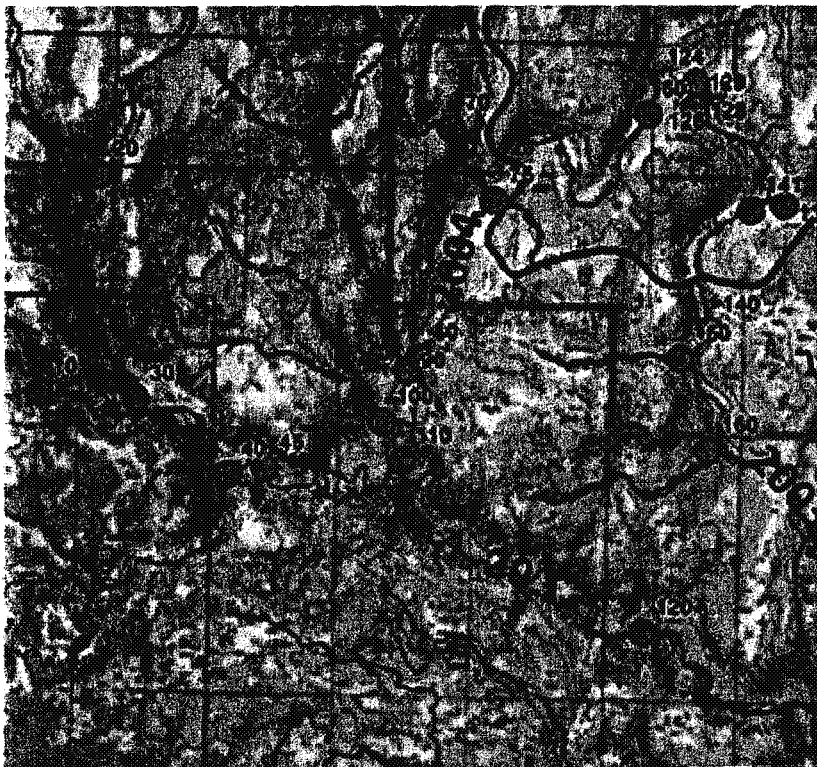


Figure 2. Monitoring sites in the upper portion of Watershed 20 and lower portion of Watershed 2004. Map adapted from Riverside Technologies, Inc. 2007.

Monitoring Site 20 is “on the first tributary (200601 Creek is a tributary of Chuit Creek) west of the 2004 Creek watershed. While this tributary is not likely to be affected by the mine, it is the point where 200601 Creek runs off the lease area.” (Riverside Technologies 2007). The median pH is 6.8 and none of the 4 samples exceeded the Water Quality Criteria for Aquatic Life (WQC) of 1 mg/L total iron (Figure 3).

Monitoring Site 45 is upstream of all currently anticipated disturbances on the Chuit River. There were 15 water samples for this site; two samples exceeded the WQC for total iron. The median pH at this site was 7.3, although some measurements were slightly acidic (Figure 4).

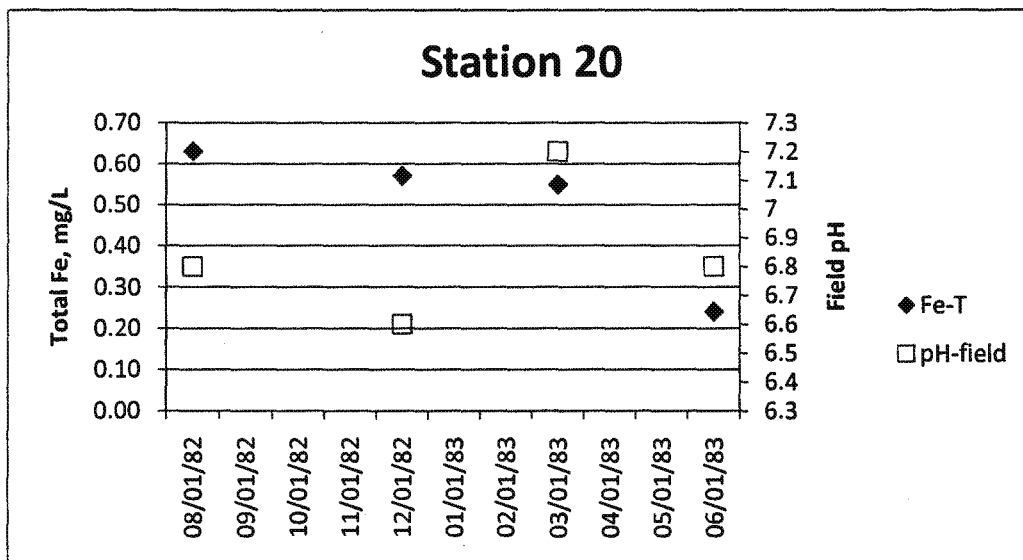


Figure 3. Concentrations of total Fe and pH at Station 20.

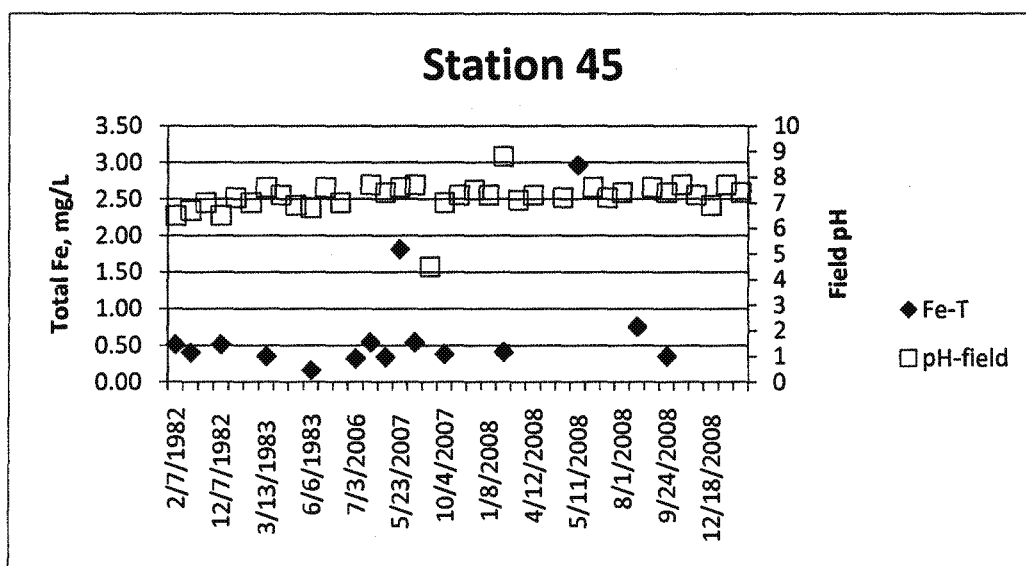


Figure 4. Concentrations of total Fe and pH at Station 45.

Monitoring Site 120 is located on the Chuit River downstream of the confluence of 2004 Creek (adjacent to the proposed project area) and upstream of Watershed 2003 (which flows through the proposed project area.) According to the Riverside Technologies Report, this station has a long record of both water quality and discharge data. Of the 30 water quality samples, 6 samples (or 20%) contained concentrations of total Fe that were higher than the WQC (reference Table 1 at end of document). The median pH was slightly basic at 7.3 (Figure 5), although some measurements were below 7.

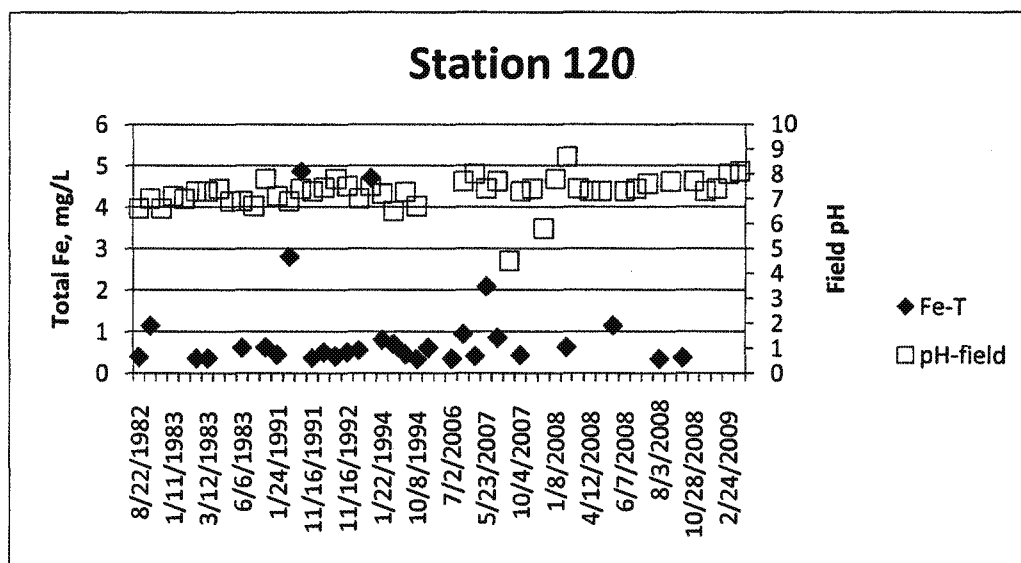


Figure 5. Concentrations of total Fe and pH at Station 120.

Monitoring Site 230 is located on the Chuit River downstream of the proposed mine and most of the project facilities. According to Riverside Technologies, this site “is thought to have the longest flow record (October 1, 1975 through the present) of any of the stations in the Chuit River basin. Records have been collected by both the USGS (Chuit River near Tyonek, AK 15294450) and the Project.” Water quality from this site is influenced by drainage from Watersheds 2004, 2003 and 2002, all within the proposed project area.

Seven of the 32 samples collected from this site (22%) contained total Fe concentrations that were higher than the WQC, median pH was slightly basic at 7.2 (Figure 6).

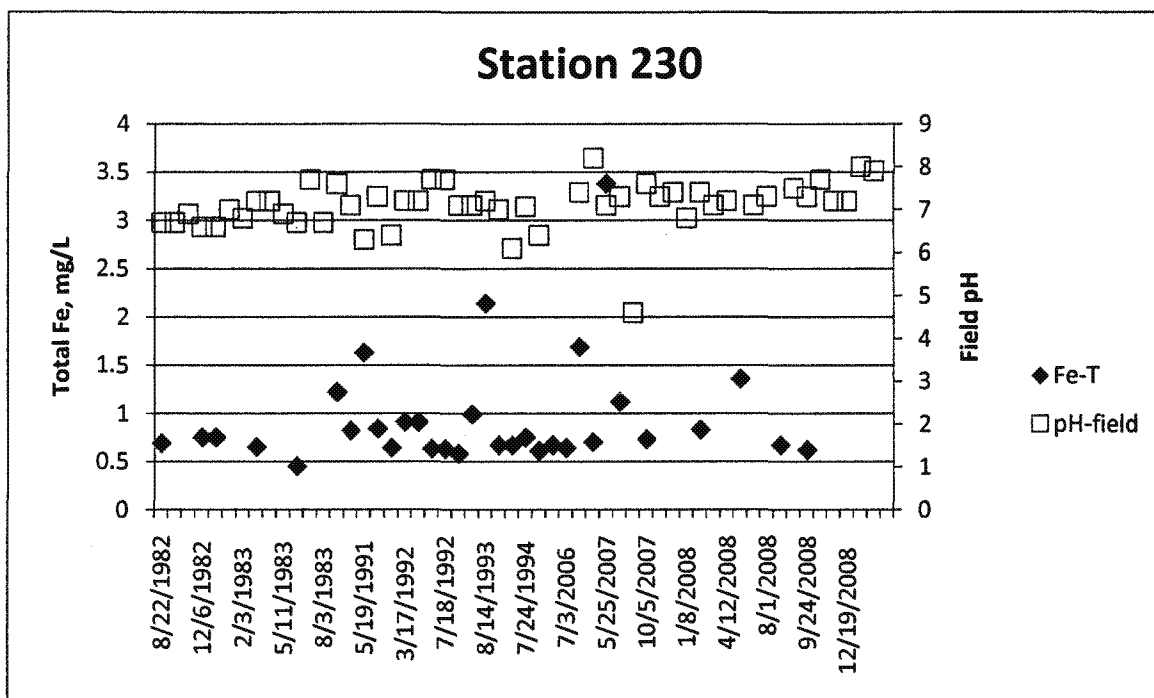


Figure 6. Concentrations of total Fe and pH at Station 230.

The Chuit River at Station 230 appears to be influenced by the drainages from the more mineralized watersheds. Samples collected in late fall (after September) and early spring do not appear to differ substantially from samples collected in the summer months (except one elevated concentration in May, Figure 7).

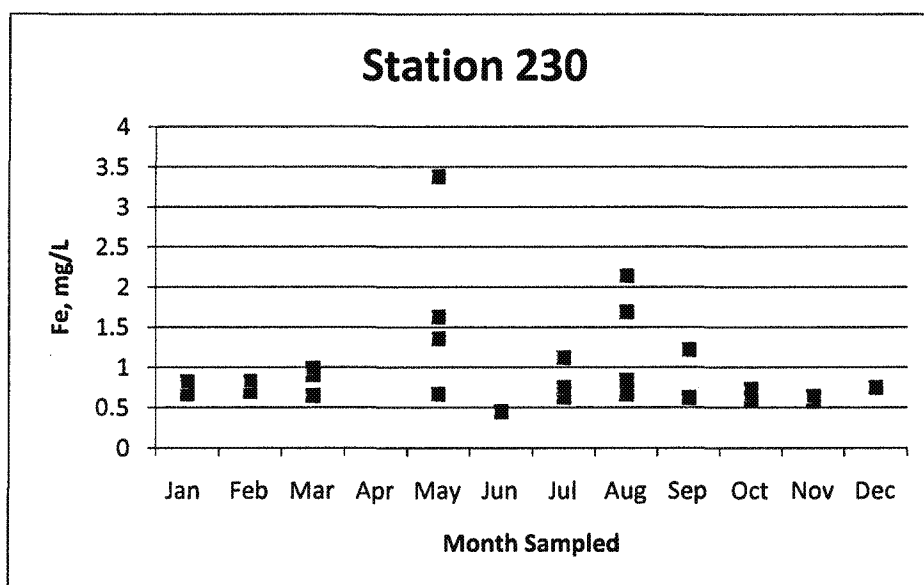


Figure 7. Concentrations of total iron measured at Station 130, 2003 Creek, various years. Data are sorted by month of collection.

Biological Communities

The Alaska Department of Fish and Game (ADF&G) has documented the presence of anadromous fish throughout watershed 20 (Appendix 1). Species found in the lower reaches include chum (*Oncorhynchus keta*), coho (*O. kisutch*), Chinook (*O. tshawytscha*), pink (*O. gorbuscha*) and sockeye salmon (*O. nerka*), arctic lamprey (*Lampetra camtschatica*), Dolly Varden (*Salvelinus malma*) and Pacific lamprey (*L. tridentate*). Coho and Chinook salmon and Dolly Varden spawn and rear throughout the drainage; coho salmon spawning has been documented as far upstream as the upper portions of Wolverine Creek. Chum and pink salmon spawn from the confluence of 2004 Creek to the lower reaches of the Chuit River.

Oasis (2008) sampled the lower reaches of the Chuit River (below the confluence with 2002 Drainage). In addition to the fish species listed above, Oasis reported the presence of ninespine stickleback (*Pungitius pungitius*), coast range sculpin (*Cottus aleuticus*), slimy sculpin (*C. cognatus*) and threespine stickleback (*Gasterosteus aculeatus*). Fish samples collected by Oasis contained mostly juvenile coho salmon and stickleback. No rainbow trout were found in 2006 and only few in the lower reaches of the Chuitna in 2007.

Oasis (2008) sampled benthic invertebrates in Chuit Creek, near Station 20 and near Stations 40 and 45 and in the Chuitna between the confluences of 2002 Creek and 2003 Creek and in the Chuitna near Station 230. Overall, benthic invertebrate samples contained high densities and taxonomic richness (from 33 to 56 taxa per sample site).

Water Quality and Biological Data, Watershed 2004

Water Quality

Stream 2004 drains the west side of the proposed mine area and could be potentially affected by the mine operation. Tributaries on the east side of the Stream 2004 watershed could be directly affected by mine disturbance (Figure 8). According to Riverside Technologies (2007), “the glacial hydrogeologic unit thins and the creek bed may run directly on the coal units in the lower reaches of Stream 2004.”

Figure 8. Monitoring sites in Watershed 2004.



Monitoring Site 110 is the lowest site on Stream 2004 and is found immediately upstream of the Chuit River confluence. Water quality at this site shows elevated concentrations of total Fe, with 8 out of 14 samples (or 57%) higher than the WQC; the highest recorded concentration was 1.57 mg Fe/L (Figure 9), pH at this site is slightly acidic, with a median pH of 6.6.

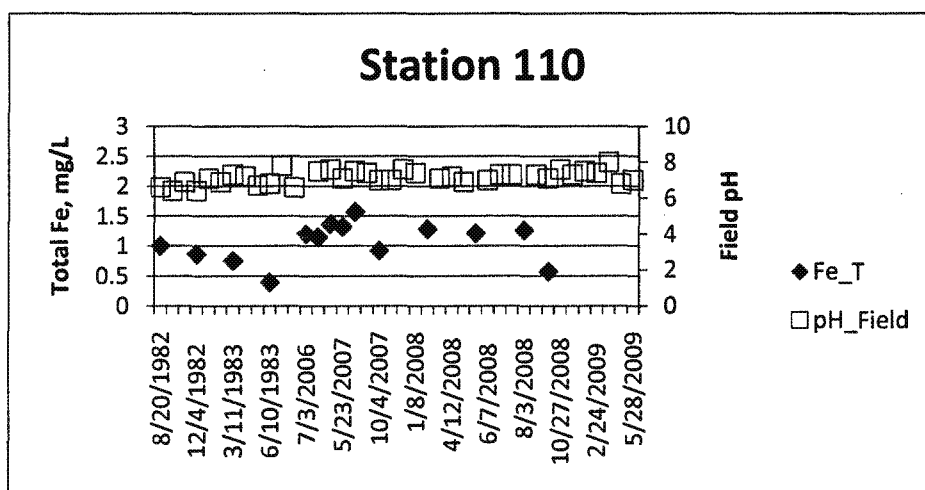


Figure 9. Concentrations of total Fe and pH at Station 110.

Monitoring Site 50 is located on Stream 2004 immediately upstream of the lease boundary. One of the 14 water quality samples (1.46 mg/L) exceeded the WQC (Figure 10). Median pH at this site was slightly acidic (6.85). This site is located outside of the proposed mine site and likely outside of the zones of higher mineralization.

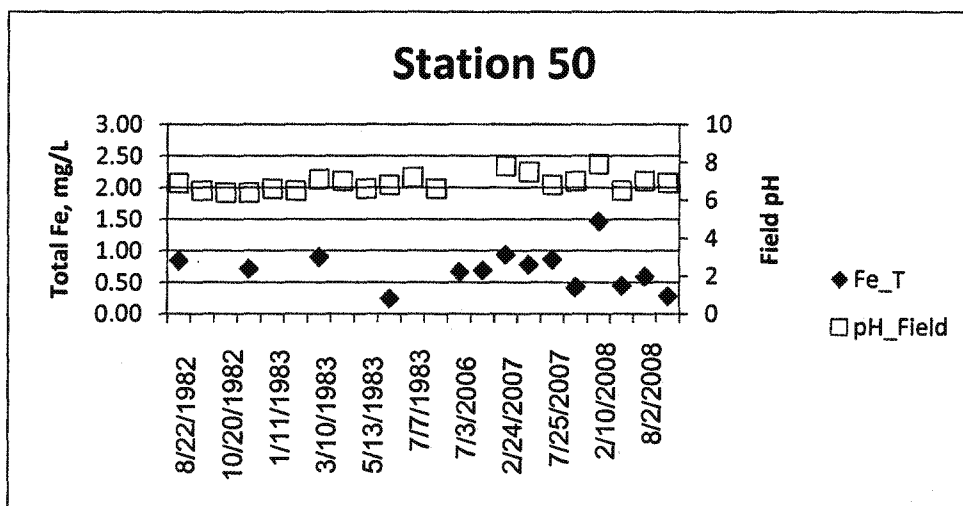


Figure 10. Concentrations of total Fe and pH at Station 50.

Monitoring Site 80 is located on Stream 2004 upstream of the confluence with tributary 200402. This site is downstream of the proposed project area. Only 4 water quality samples were collected at this site; of the 4 samples, none had a concentration of total Fe that exceeded the WQC (Figure 11). Median pH is moderately acidic (6.6).

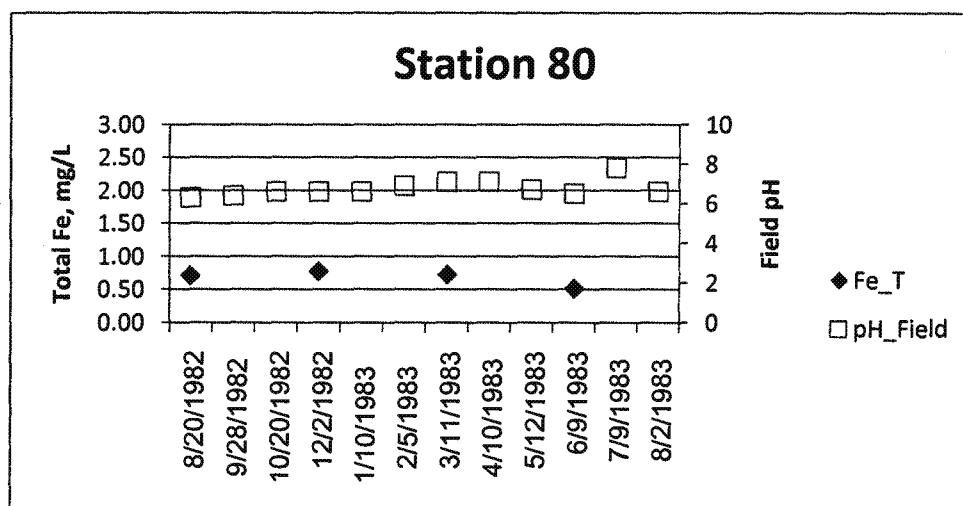


Figure 11. Concentrations of total Fe and pH at Station 080.

Biological Communities

The Alaska Department of Fish and Game has designated the lower reaches of 2004 Creek as important for chum, coho, Chinook, sockeye salmon and Arctic lamprey. Chinook and coho salmon rearing extends upstream in many of the tributaries of Watershed 2004 (refer to copies of AWC maps in Appendix 1.)

Oasis (2008) reported that 89% of their fish samples from Watershed 2004 were coho salmon. Dolly Varden, although the second most abundant species, comprised only 6% of the total catch from the 2004 Watershed. Rainbow trout, sculpin and Chinook salmon were present, but rare.

Oasis surveyed Watershed 2004 on July 27, August 1, August 17, and August 23, 2007 and did not locate any salmon spawning activity. Schools of salmon were observed at the mouth of stream 2004 as early as August 17, 2007. Spawning was first observed on September 6, 2007 and continued throughout the month. As in 2006, the upstream limit of coho salmon spawning was 8.8 river kilometers (RKM) from the mouth. Pink salmon were not observed in stream 2004 in either 2006 or 2007. Chinook salmon were observed in 2006 (2.4 RKM), but not in 2007. Oasis (2008) reported that earlier surveys documented Chinook salmon at 7.9, 4.6, and 1.6 rkm upstream in 1982, 1983 and 1984.

Oasis (2008) reported that all observed redds and fish exhibiting spawning behavior were associated with at least one cover type (undercut bank, overhanging vegetation, emergent vegetation, large woody debris, deep pool). Most of the spawning sites (42%) contained substrates of coarse gravel.

Oasis (2007) collected two benthic invertebrate samples in 2004 Creek. Invertebrate densities in the two samples were different, from 3225 organisms/m² to 28,365 organisms/m². Sixty eight percent of the sample with the higher density was the Dipteran, Simuliidae (black fly larvae). It is likely that the high density of Simuliidae occurred in one sample because the species was close to emergence. The range between these two samples illustrates the inherent natural variability of benthic invertebrate samples.

Watershed 2003

Water Quality

Stream 2003 directly drains the area proposed for mining and water quality reflects the higher degree of mineralization.



Figure 12. Monitoring sites in Watershed 2004 and Watershed 2003.

Monitoring Site 124 is located Stream 2003 downstream of the confluence with Stream 200306, but upstream of Stream 200305. Only one water quality sample was reported for this site, the concentration of total Fe was 1.57 and the pH was 7.15.

Monitoring Site 128 is located on Stream 2003 downstream of the confluence with Stream 200305. According to Riverside Technology, flows at this site “are thought to result from surface runoff and from the glacial hydrogeologic unit. This site is thought to be upstream of the exposure of the underlying coal units.” Stream water at Site 128 contains elevated iron, with

88% of the samples (12 out of 15 samples) above the WQC (Figure 13). . Median pH was near neutral at 7.1. As with Station 230, some of the highest iron concentrations were measured in August (Figure 14).

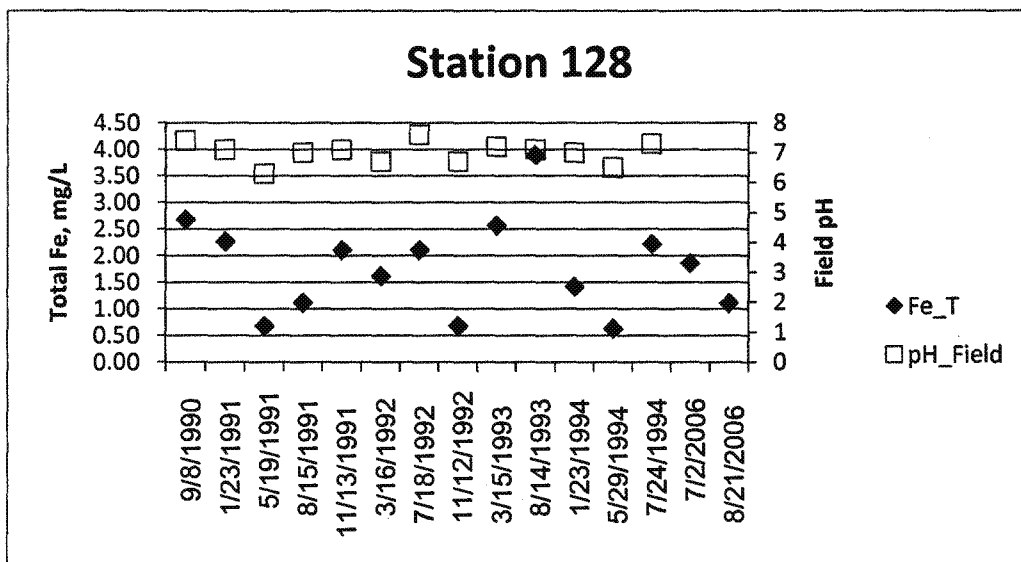


Figure 13. Concentrations of total Fe and pH at Station 128.

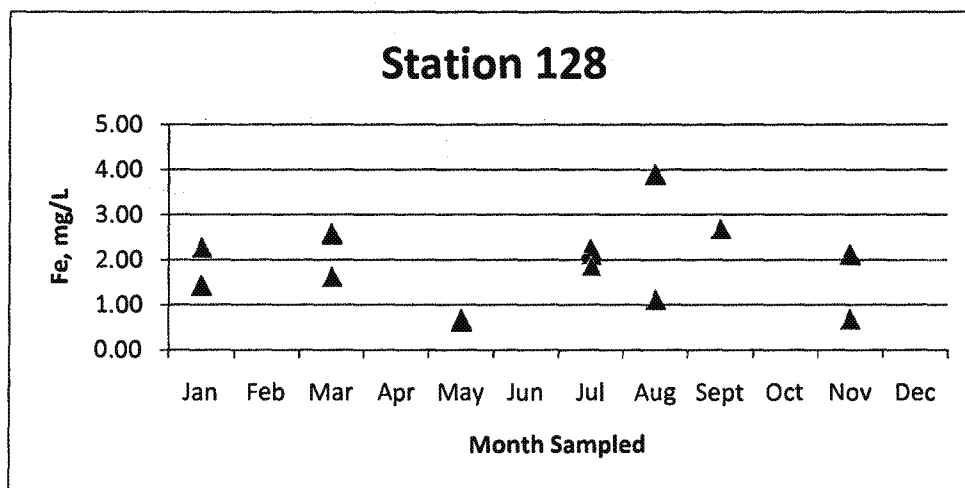


Figure 14. Concentrations of total iron measured at Station 128, 2003 Creek, various years. Data are sorted by month of collection.

Monitoring Site 129 is located on Stream 2003 downstream of the confluence with Stream 200305. According to Riverside Technology (2007), “Flows at this site are thought to result from surface runoff and from the glacial hydrogeologic unit. This site is thought to be upstream of the exposure of the underlying coal units.” Ten of the 15 (or 67%) of the water quality samples collected at this site exceeded the WQC for Fe (Figure 15), the maximum reported concentration was 4.06 mg/L. The pH was near neutral, with a median of 7.1.

Monitoring Site 141 is located on Stream 2003 immediately downstream of the confluence with 200304. As with site 129, stream water at site 141 contains elevated total Fe; 11 of the 14 samples exceeded WQC, the maximum reported concentration was 3.64 mg/L. The median pH was near neutral, at 6.9 (Figure 16).

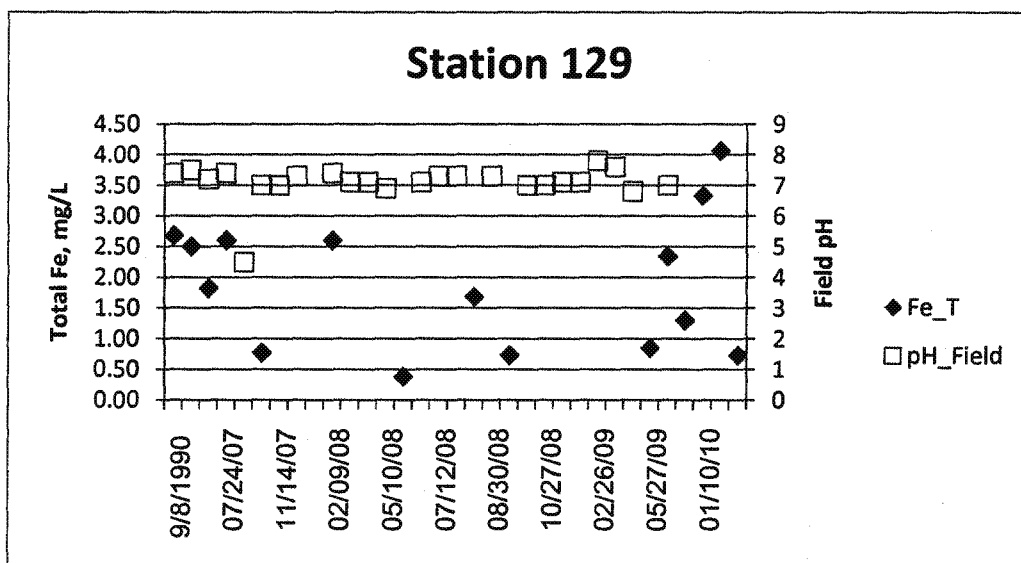


Figure 15. Concentrations of total Fe and pH at Station 129.

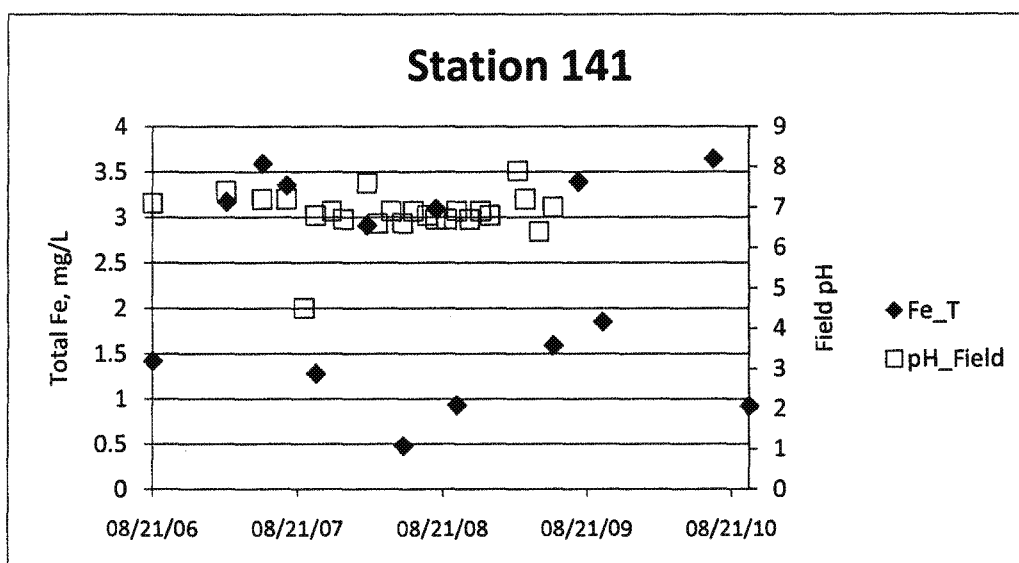


Figure 16. Concentrations of total Fe and pH at Station 141.

Monitoring Site 140 is located on Stream 2003 immediately downstream of the lease boundary. Because of beaver dams, this station was abandoned in 2006. Water quality at this site is influenced by the mineralization; all 5 samples collected at this site exceeded the WQC for total Fe; the maximum reported concentration was 3.41 mg/L total Fe (Figure 17). Median pH was slightly acidic at 6.65.

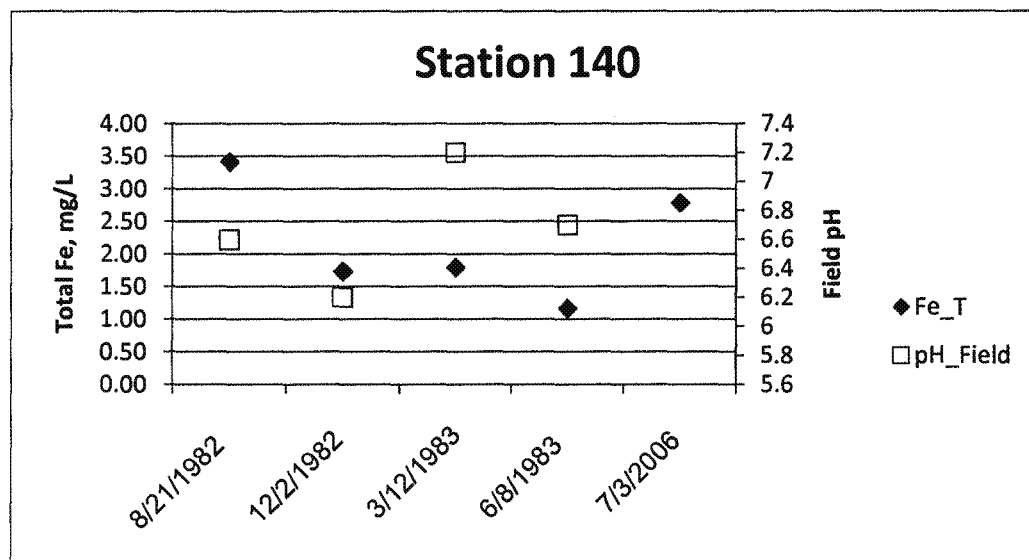


Figure 17. Concentrations of total Fe and pH at Station 140.

Monitoring Site 170 is located on tributary 200301. Tributary 200301 is a small stream that drains an area downstream of the initial mine area. Seven of the 8 water quality samples from this site exceeded the WQC for total Fe (Figure 18). The pH was near neutral at 6.9.

Monitoring Site 180 is the farthest downstream site on Stream 2003 and is found immediately upstream of the Chuit River confluence. Water quality in Site 180 reflects the mineralization of the area: 87% of the samples (26 out of 30) exceeded the WQC for total iron (Figure 19). The maximum reported concentration was 2.89 mg/L. Median pH at this site was slightly basic at 7.3.

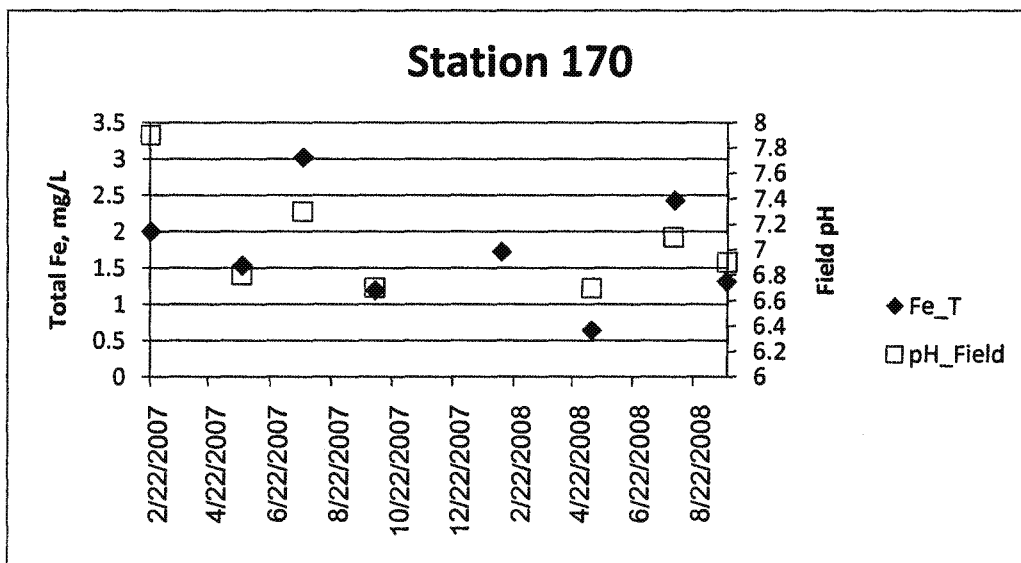


Figure 18. Concentrations of total Fe and pH at Station 170.

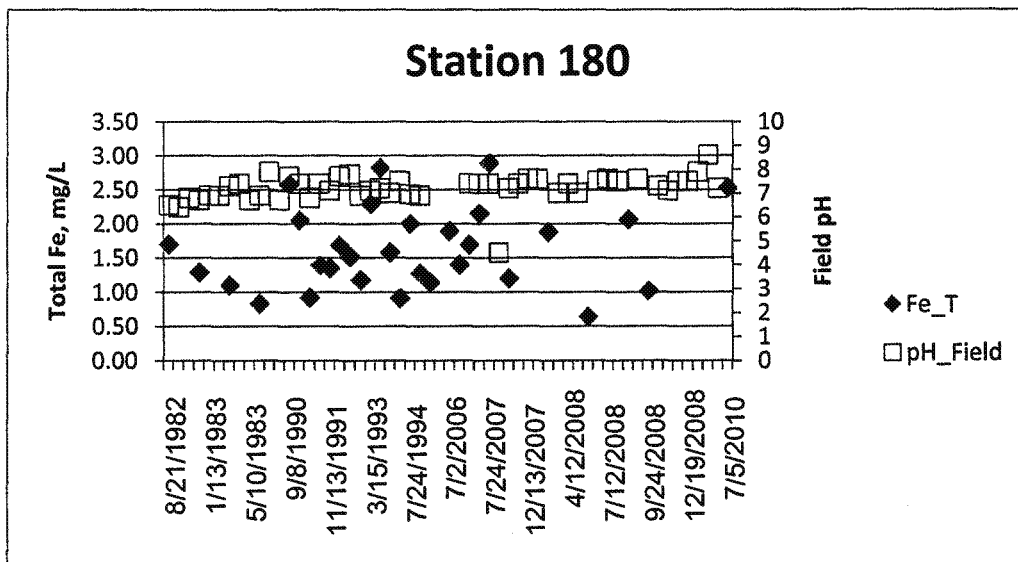


Figure 19. Concentrations of total Fe and pH at Station 180.

Biological Communities

ADF&G has designated a large portion of Watershed 2003 as important for the spawning, rearing or migration of anadromous fish (Appendix 1). The lower portion of 2003 Creek supports coho, Chinook and pink salmon spawning and Arctic lamprey rearing. Coho and Chinook salmon rearing are documented to the headwater portions of many of the tributaries of 2003 Creek, including near Monitoring Stations 167, 141, 129, and 126 (refer to map in Figure 11). Pink salmon spawning has been documented in 2003 Creek to a short distance downstream of Monitoring Station 150.

Oasis (2008) sampled the 2003 Drainage and reported that 75% of the juvenile fish collected with minnow traps were coho salmon. Other fish species included Dolly Varden (16%), sculpin, stickleback and lamprey. In 2006, Oasis observed adult Chinook and pink salmon migrating upstream into 2003 Creek, 1.5 and 5.1 rkm respectively. Spawning surveys from the early 1980s document Chinook salmon upstream migration distances ranging from 5 rkm to 6.3 rkm and a pink salmon upstream migration distance of 1.5 rkm (no records exist for pink salmon migration distance in 1982 or 1983). In September 2006, following rain storms, Oasis observed coho salmon migration far into stream 2003 and on September 19 – 21, 2007, coho were observed spawning in several branches of upper stream 2003. Observations on September 26 found that coho salmon migration reached into the headwaters of 2003 Creek. Oasis reported that the majority of redd sites (86%) were associated with stream cover, such as undercut banks, overhanging vegetation or large woody debris.

Oasis sampled 3 sites in 2003 Creek for aquatic invertebrates. The lowest density was found near Monitoring Station 124 in both 2006 and 2007 (2,283 and 2,632 organisms/m², respectively). Invertebrate densities at sites farther downstream were from approximately 4000 to 10,000 organisms/m².

Watershed 2002: Lone Creek

Stream 2002 (Lone Creek, Figure 20) is the nearest large stream on the east side of the mine area that could be affected by the mine operation.



Figure 20. Monitoring sites in upper portion of Watershed 2002, Lone Creek.

Water Quality

Monitoring Site 190 is located downstream of the outcropping coal units and upstream of the proposed mine area. None of the 4 water quality samples exceeded the WQC for total Fe; the maximum recorded value was 0.65 mg/L (Figure 21). The pH is slightly acidic, with a median value of 6.85.

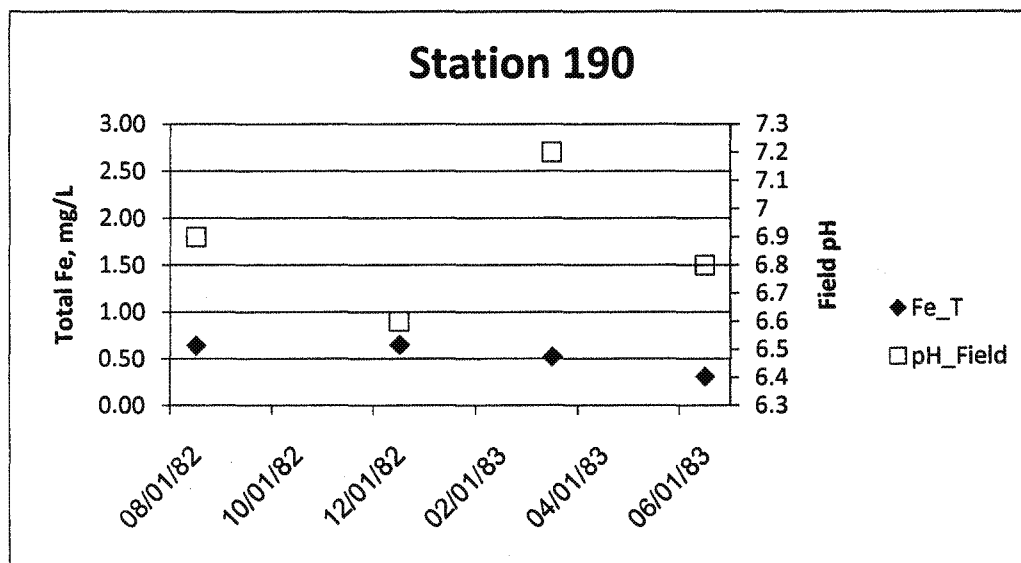


Figure 21. Concentrations of total Fe and pH at Station 190.

Monitoring Site 195 is located on Lone Creek downstream of Station 190 and lies within the lease area. Water quality at this sit reflects the higher mineralization of the proposed project area: 53% of the samples (8 out of 15) had total iron concentrations that were higher than the WQC (Figure 22). The pH was neutral, with a median of 7.

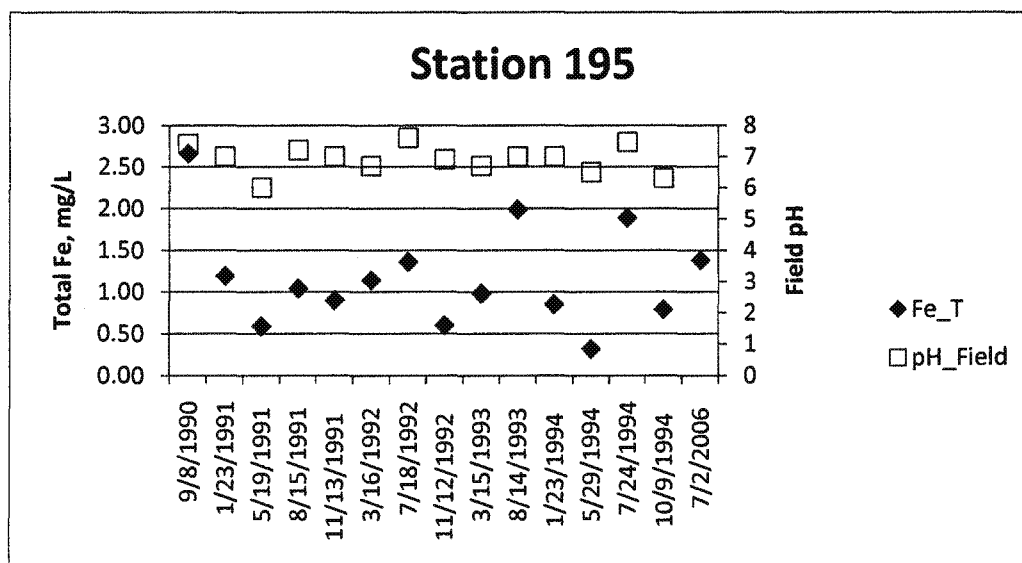


Figure 22. Concentrations of total Fe and pH at Station 195.

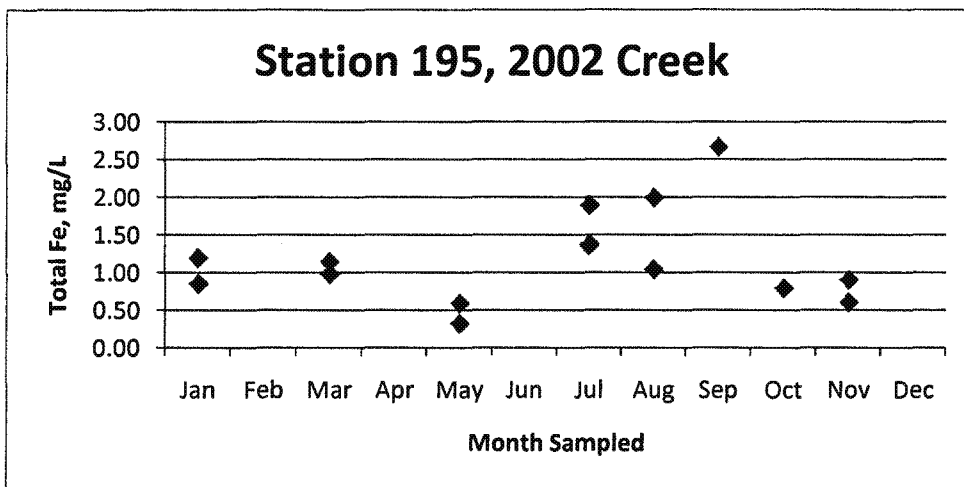


Figure 23. Concentrations of total iron measured at Station 195, 2002 Creek, various years. Data are sorted by month of collection.

Monitoring Site 196 is located on upper Lone Creek near Station 190. Stream water at this site has elevated concentrations of total Fe; 40% of the samples (6 out of 15) were above the WQC (Figure 24). The median pH was 7.2.

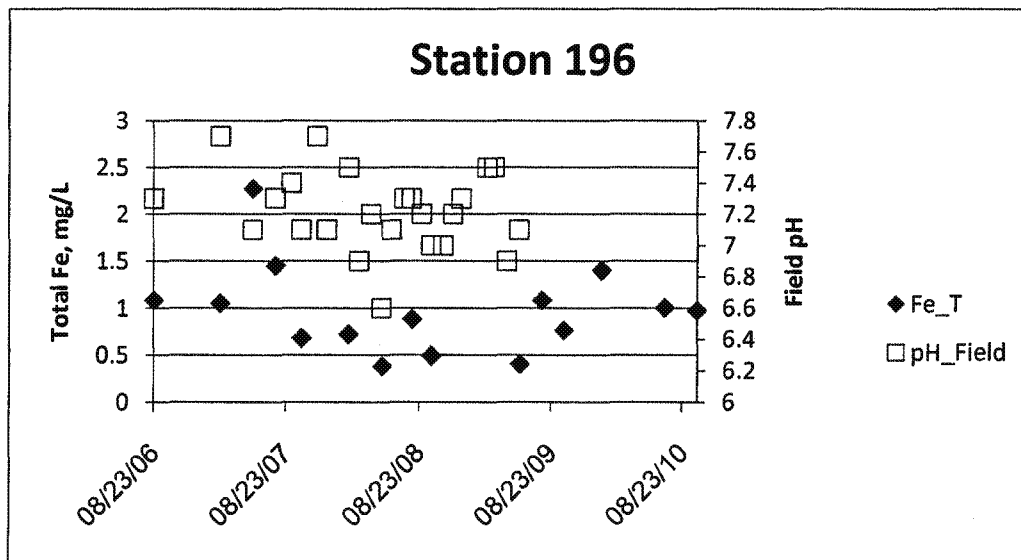


Figure 24. Concentrations of total Fe and pH at Station 196.

Monitoring Site 198 is located downstream of the mine area. Data collected at this site are intended to characterize Lone Creek and to help evaluate impacts from the mine operation. This station site was abandoned in 2006 because of beaver dams backing water up into the reach containing the gage. Water quality at this site reflects the mineralization of the drainage: 64% of the water samples contained total Fe concentrations above the WQC and the maximum concentration was 2.4. The median pH was circumneutral at 6.9, although 8 of the 14 measurements were below 7 (Figure 27).

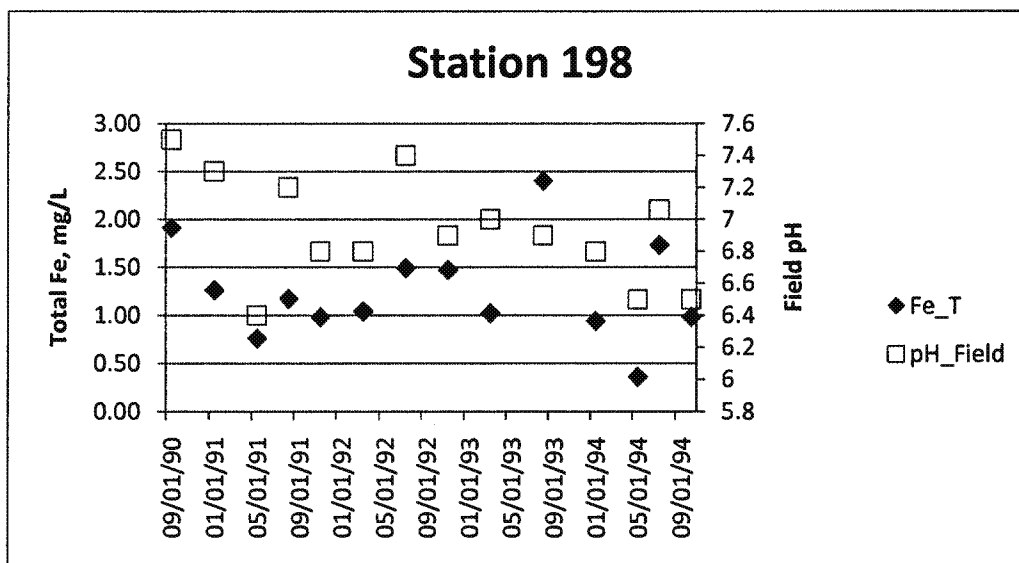


Figure 25. Concentrations of total Fe and pH at Station 198.

Monitoring Site 200 is located downstream of the lease boundary and slightly downstream of Monitoring Site 195. This site was abandoned in 2006 because of beaver dams backing water up into the reach that would contain the gage. Water quality at this site shows some effects of mineralization with 20% of the samples higher than the WQC. The maximum concentration of total Fe reported for this site was 1.23 mg/L (Figure 26). The median pH was 6.7, slightly acidic.

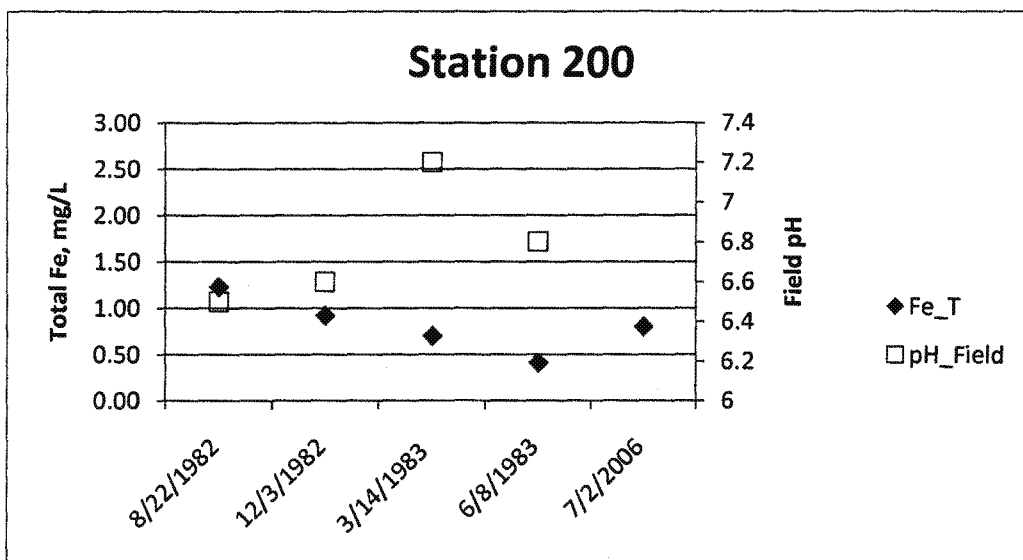


Figure 26. Concentrations of total Fe and pH at Station 200.

Monitoring Site 205 is located downstream of the lease boundary and immediately upstream of the confluence with 200201 Creek. This site is as close as possible to the original C200 site not affected by beaver dams. Only one water quality sample was available for this site: the concentration of total Fe was 1.41 mg/L and the pH was 7.6.

Monitoring Site 211 is located immediately upstream of the proposed access road crossing and upstream of the permit boundary. Ten water quality samples were collected at this site, 70% of the samples exceeded the WQC for total Fe (Figure 27). The median pH was 6.9, near neutral.

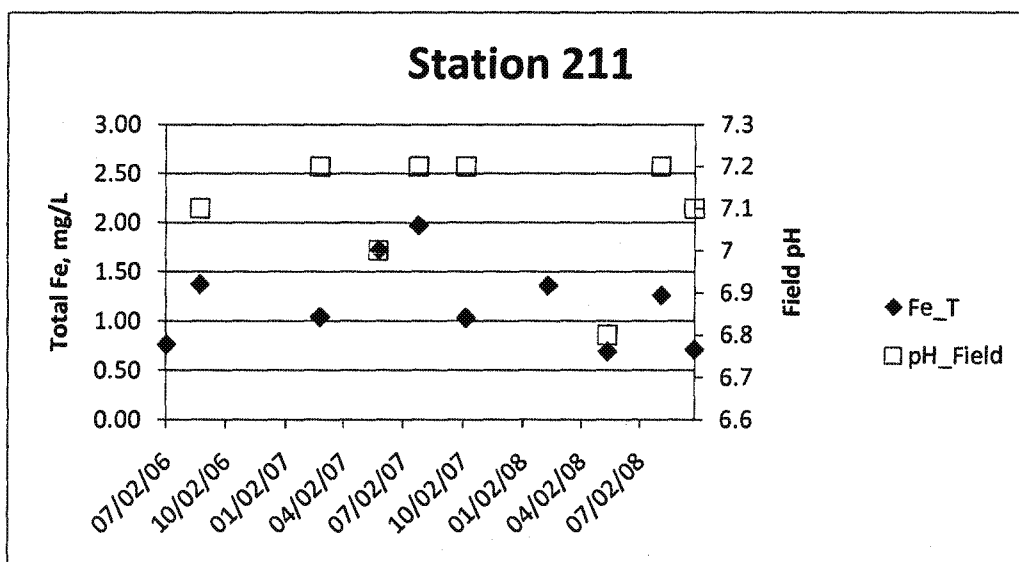


Figure 27. Concentrations of total Fe and pH at Station 211.

Monitoring Site C220 is the lowest site on Lone Creek and is located just upstream of the confluence with the Chuit River. Data collected at this site are intended to characterize Lone Creek and to help evaluate impacts from the mine operation. This site was renovated in 2006. Water quality samples from this site have elevated concentrations of total Fe: 93% of the samples were above the WQC and the maximum reported value was 2.71 mg/L (Figure 28). The median pH was 7.

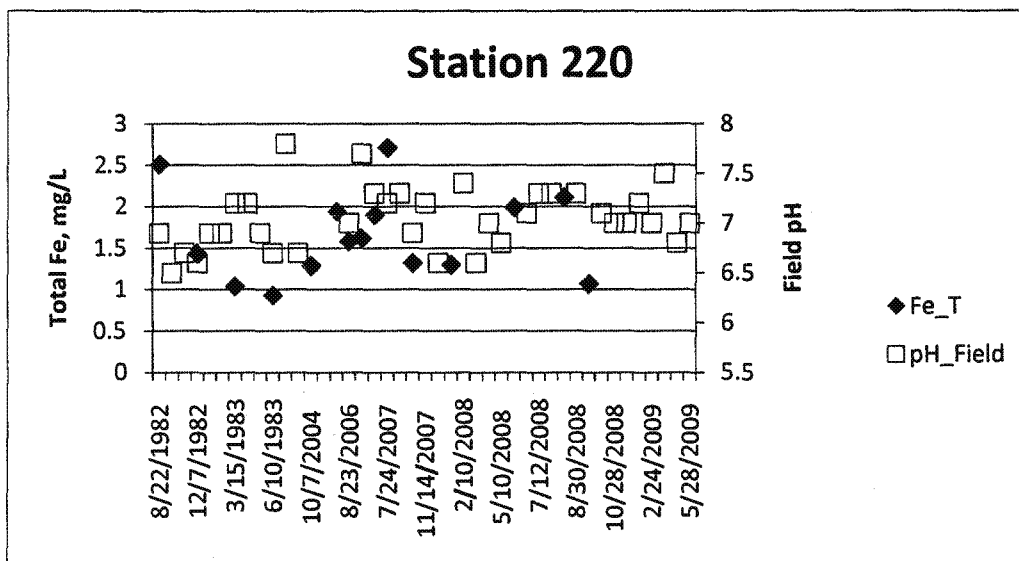


Figure 28. Concentrations of total Fe and pH at Station 220.

Biological Communities

ADF&G has designated most of the tributaries in the Lone Creek Drainage (2002 Watershed) as important for chum, pink, coho and sockeye salmon. The lower portion of Lone Creek also contains Arctic and Pacific lamprey. (Refer to maps in Appendix 1). The headwater portions of this drainage are designated for coho salmon rearing and portions of tributaries for sockeye salmon spawning.

Oasis (2008) surveyed portions of Lone Creek in late July 2007, but did not observe salmon. August surveys found both Chinook and pink salmon that were in spawning condition. Oasis documented spawning activity near the confluence of Stream 2002 and the Chuitna upstream to approximately 1 RKM. September surveys found coho salmon upstream to 18.2 RKM.

Sampling for juvenile fish with minnow traps found an abundance of coho salmon (88% of total juvenile fish collected), with fewer stickleback (5%), Dolly Varden (3%), sculpin (3%) and lamprey (1%).

Watershed 40: Threemile Creek

Stream 40 (Threemile Creek, Figure 29) is the next drainage east of the Lone Creek and is crossed by a proposed transportation corridor. Limited data have been collected at sites on Threemile Creek. There were few water sample data available for any given site in the Threemile Creek Drainage. Water quality data are summarized on Figure 39.

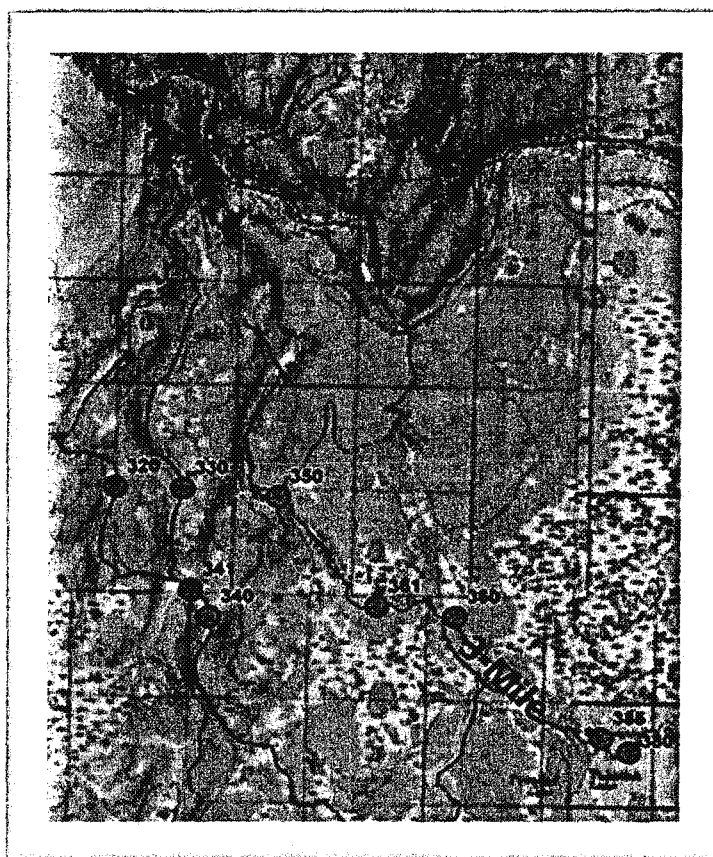


Figure 29. Monitoring sites in upper portion of Watershed 40, Threemile Creek.

Water Quality

Monitoring Site 320 is a tributary to Stream 4002 (which flows into Threemile Creek. This monitoring site is located in the left fork. Seven water quality samples were reported for this site, 6 of the samples exceeded the WQC for total Fe (Figure 30). The median pH was 6.9.

Monitoring Site 340 is located on tributary 4002, near a crossing of a proposed transportation corridor. Four water samples were reported for this site; all of the samples contained concentrations of total Fe above the WQC (Figure 31). The median pH was 7.

Monitoring Site 341 is located on tributary 4002 located downstream of a crossing of a proposed transportation corridor. Two samples were found for this site with total iron concentrations of 1.16 and 2.12 mg/L and pH of 6.9 and of 7.7.

Monitoring Site 350 is on Threemile Creek near a crossing of a proposed transportation corridor. Ten water samples were reported from this site; 4 samples exceeded the WQC for total Fe (Figure 32). Median pH was 6.6.

Monitoring Site 360 is located on tributary 4001 near a crossing of a proposed transportation corridor. One water quality sample was found for this site; the sample had a total Fe concentration of 0.86 mg/L and pH of 6.4.

Monitoring Site 361 is located on Threemile Creek near a crossing of a proposed transportation corridor. One water quality sample was found for this site with a concentration of total Fe of 1.24 mg/L and pH of 7.

Monitoring Site 380 is the lowest site on Threemile Creek. It is located near a crossing of a proposed transportation corridor. Four water quality samples were found for this site, all of the samples exceeded the WQC for total Fe (Figure 33). The median pH was 7.1.

Monitoring Site 385 is on Threemile Creek just downstream of Tukallah Lake, near a crossing of a proposed transportation corridor. Eight water quality samples were reported for this site, all samples were above the WQC (Figure 34). Median pH was 6.8.

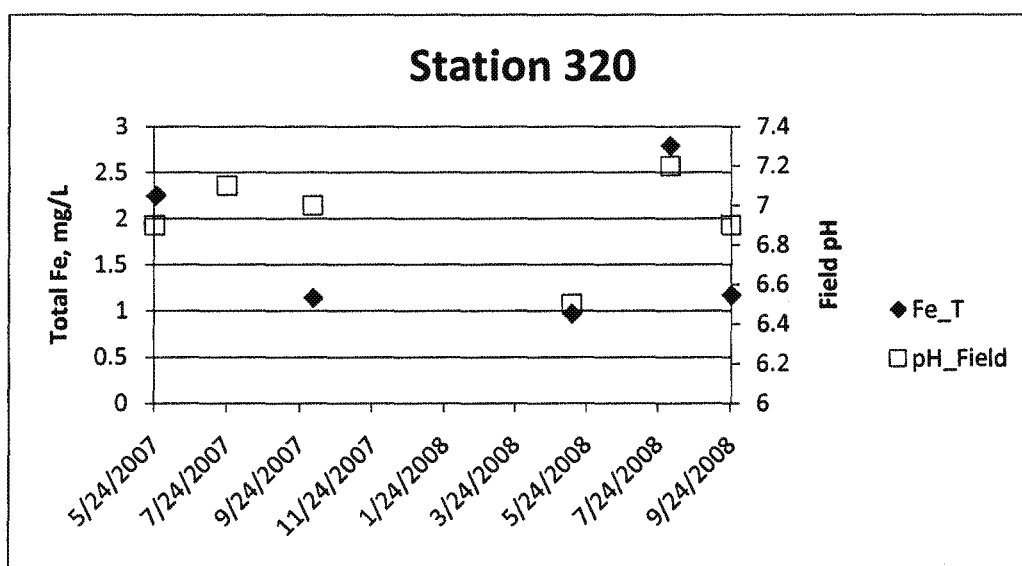


Figure 30. Concentrations of total Fe and pH at Station 320.

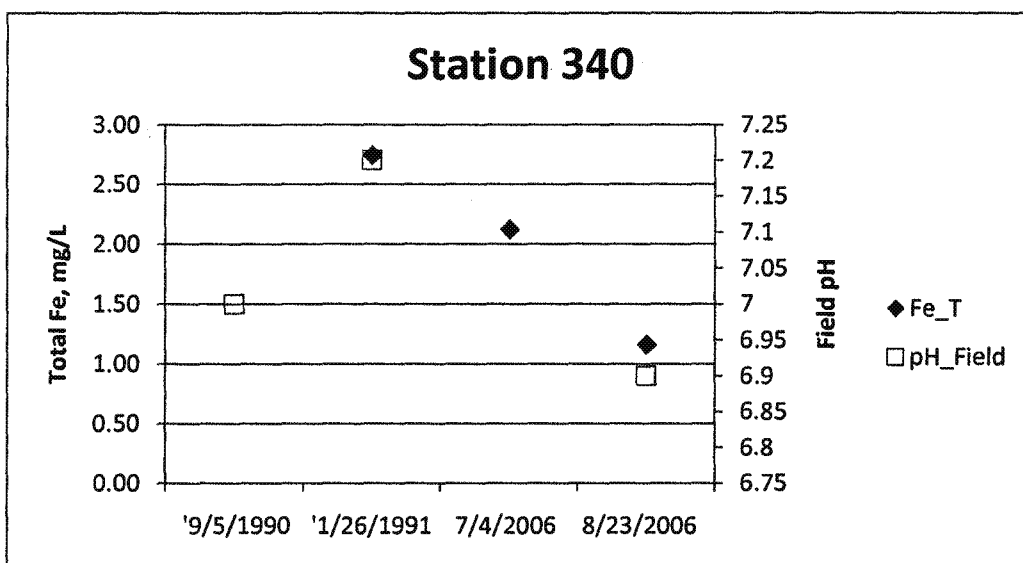


Figure 31. Concentrations of total Fe and pH at Station 340.

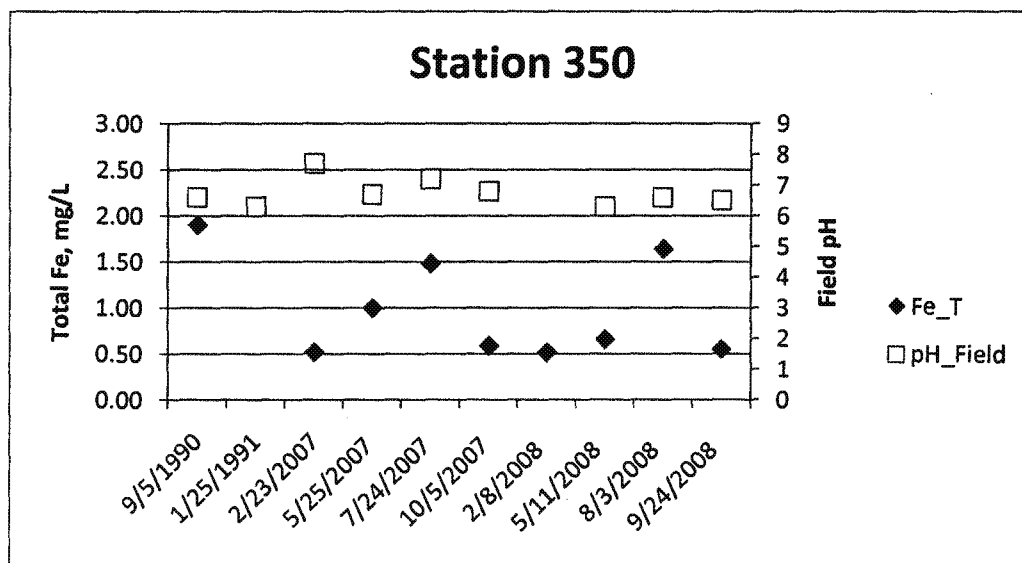


Figure 32. Concentrations of total Fe and pH at Station 350.

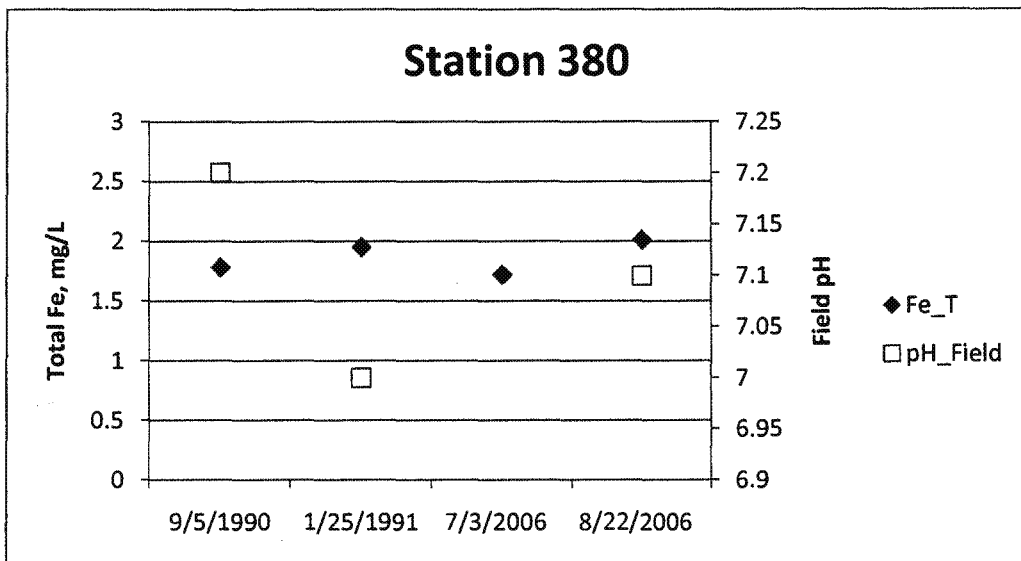


Figure 33. Concentrations of total Fe and pH at Station 380.

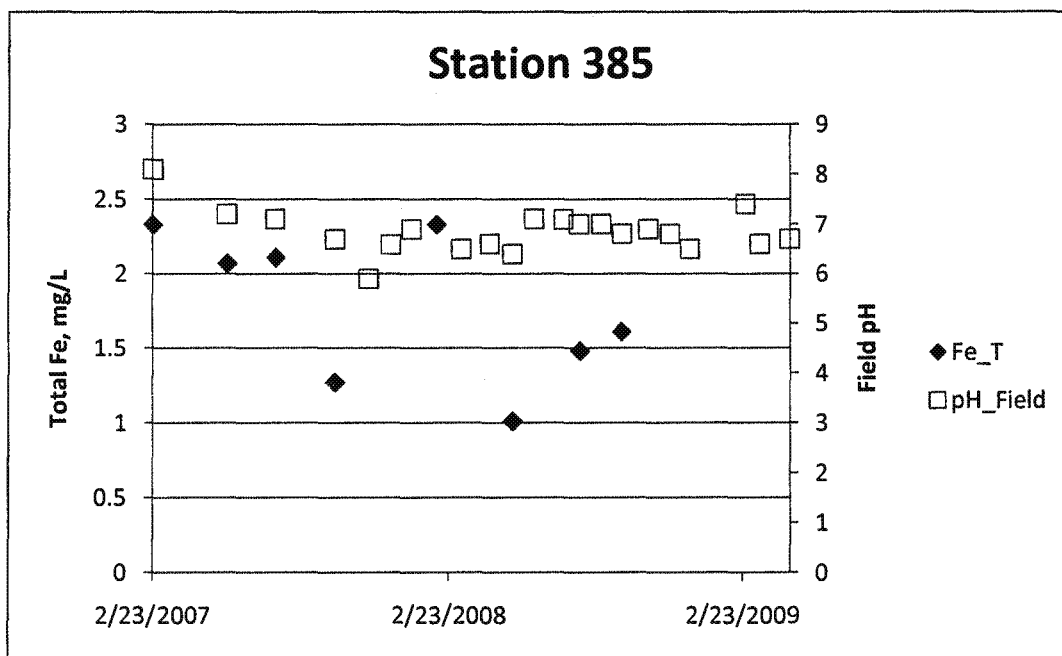


Figure 34. Concentrations of total Fe and pH at Station 385.

Biological Communities

ADF&G has designated most of the tributaries in Watershed 40 as important for chum coho, Chinook, pink and sockeye salmon (Appendix 1). Coho salmon juveniles rear into the upper reaches. Sockeye salmon spawn in both of the major tributaries, downstream of Station 340 and near Station 360. Coho salmon spawning has been documented in the lower reaches.

Fish sampling with minnow traps conducted by Oasis (2008) found that most of the fish were coho salmon (63% of total catch), with sculpin (16%), stickleback (20%) and lamprey (2%). In 2006, Oasis also caught Dolly Varden, Chinook salmon and rainbow trout from Threemile Creek, although they were caught infrequently. None of these species were caught in 2007, either with minnow traps or with electrofishing. Overall, the catch per unit effort for coho salmon was lowest in Threemile Creek.

Benthic invertebrate sampling by Oasis (2008) found sample densities in Threemile Creek ranging from 2255 to 7000 organisms/m² and from 55 to 65 different taxa (based on 4 samples).

Summary of Water Quality Data

Table 1 contains a summary of the water quality data for each site; the information presented on this table includes the median, 75th percentile and 90th percentile for total iron and the median pH. Following the table are maps showing the sample locations (Figure 32) and maps showing the median (Figure 33), 75th (Figure 34) and 90th (Figure 35) percentiles.

Table 1. Summary of water quality data collected in the Chuitna Drainage.

Station	No. of Sample s	Median	Max.	Min.	#>WQC	%>WQC	75th Percentile	90th Percentile	Median Field pH
Watershed 20									
Station 20	4	0.56	0.63	0.24	0	0%	0.59	0.612	6.8
Station 45	15	0.41	2.96	0.16	2	13%	0.54	1.386	7.3
Station 120	30	0.54	4.86	0.34	6	20%	0.84	2.152	7.3
Station 230	32	0.74	3.38	0.45	7	22%	0.93	1.603	7.2
Station 400	8	8.185	19.9	5.01	8	100%	9.11	12.641	7.4
WS 2002									
Station 195	15	1.04	2.66	0.32	8	53%	1.37	1.95	7
Station 196	15	0.97	2.27	0.38	6	40%	1.08	1.43	7.2
Station 198	14	1.105	2.4	0.36	9	64%	1.49	1.856	6.9
Station 200	5	0.8	1.23	0.41	1	20%	0.92	1.106	6.7
Station 220	15	1.58	2.71	0.93	14	93%	1.97	2.35	7
Station 211	10	1.15	1.97	0.69	7	70%	1.37	1.745	7.15
Station 190	4	0.58	0.65	0.31	0	0%	0.64	0.647	6.85
WS 2003									
Station 124	1	1.57	1.57	1.57	1	100%	1.57	1.57	7.15
Station 170	8	1.625	3.02	0.64	7	88%	2.1075	2.607	6.9
Station 128	15	1.86	3.89	0.63	12	80%	2.245	2.636	7.1
Station 129	15	1.82	4.06	0.38	10	67%	2.6	3.07	7.1
Station 140	5	1.79	3.41	1.16	5	100%	2.78	3.158	6.65
Station 141	14	2.38	3.64	0.48	11	79%	3.305	3.53	6.9
Station 180	30	1.55	2.89	0.64	26	87%	2.0375	2.535	7.3
WS2004									
Station 80	4	0.71	0.77	0.51	0	0%	0.7325	0.755	6.6
Station 110	14	1.175	1.57	0.39	8	57%	1.275	1.355	7.15
Station 050	14	0.7	1.46	0.24	1	7%	0.855	0.921	6.85
WS 40									
Station 320	7	2.25	4.1	0.97	6	86%	2.935	3.488	6.95
Station 340	4	2.43	3.23	1.16	4	100%	2.8625	3.083	7
Station 350	10	0.83	3.34	0.52	4	40%	1.6	2.044	6.6
Station 380	4	1.865	2.01	1.72	4	100%	1.965	1.992	7.1
Station 385	8	1.84	2.33	1.01	8	100%	2.165	2.33	6.8

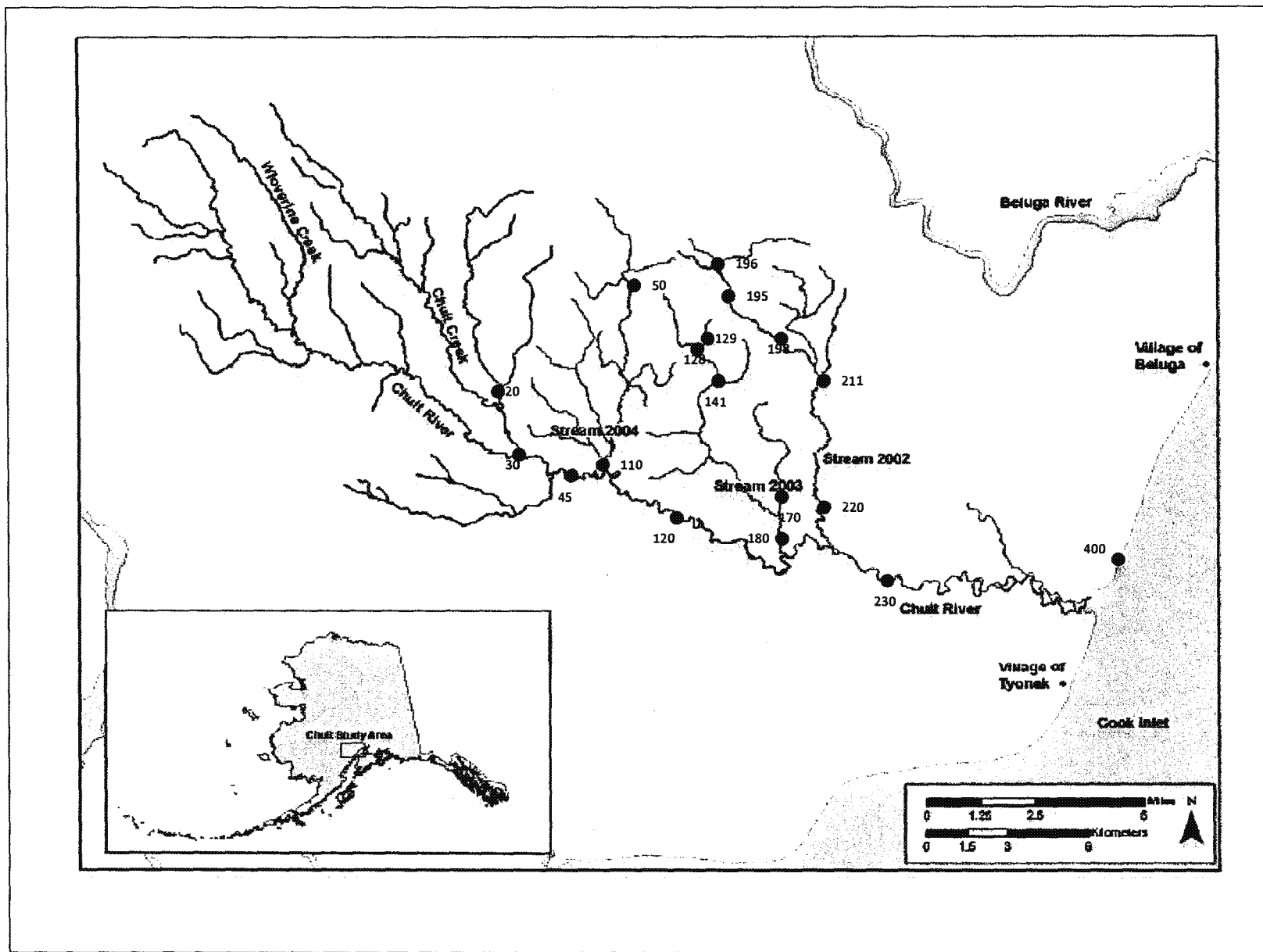


Figure 35. Map showing sampling locations. WS 40 is shown on Figure 39.

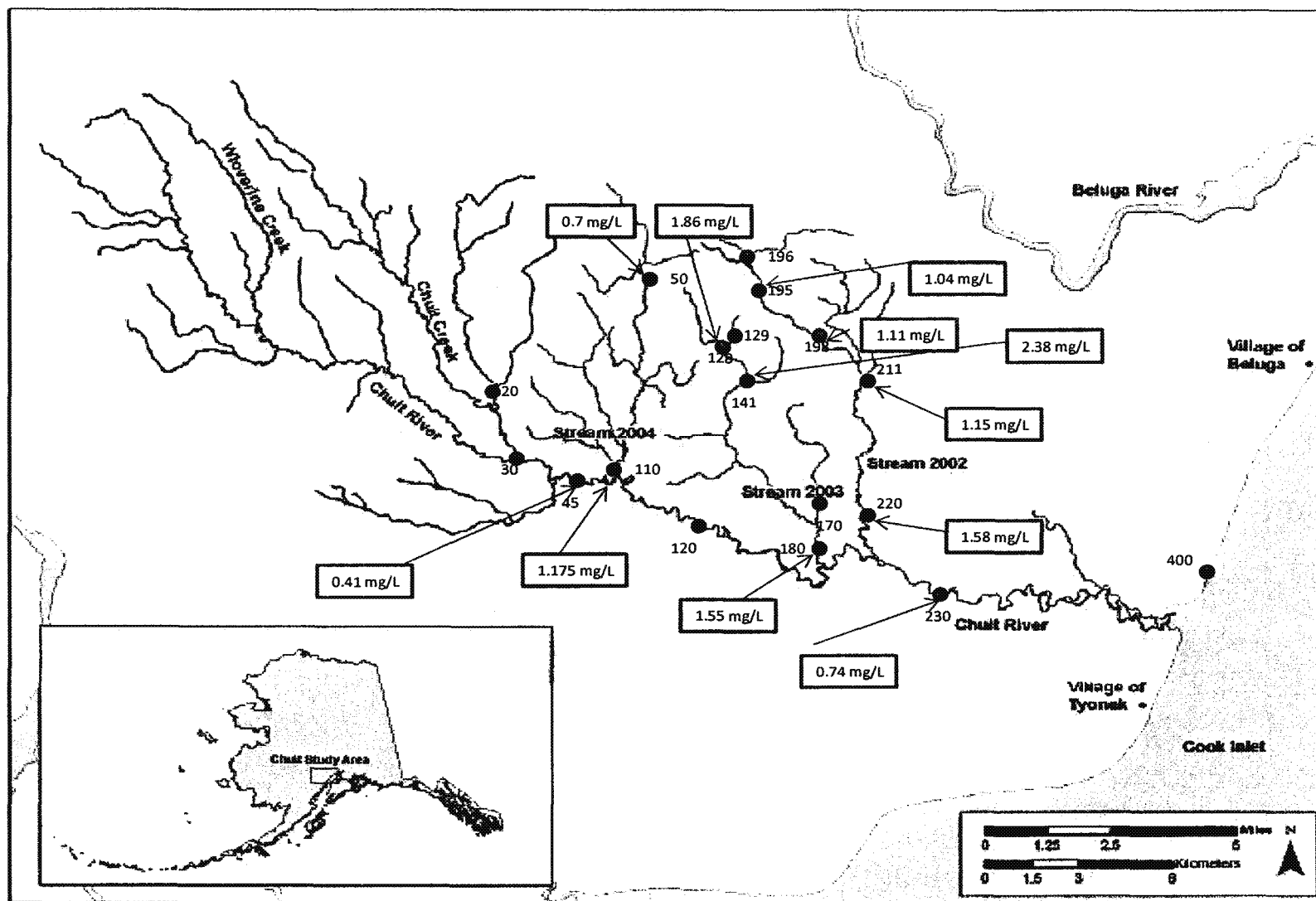


Figure 36. Median concentration of total Fe at various sites. Watershed 40 is shown on Figure 39.

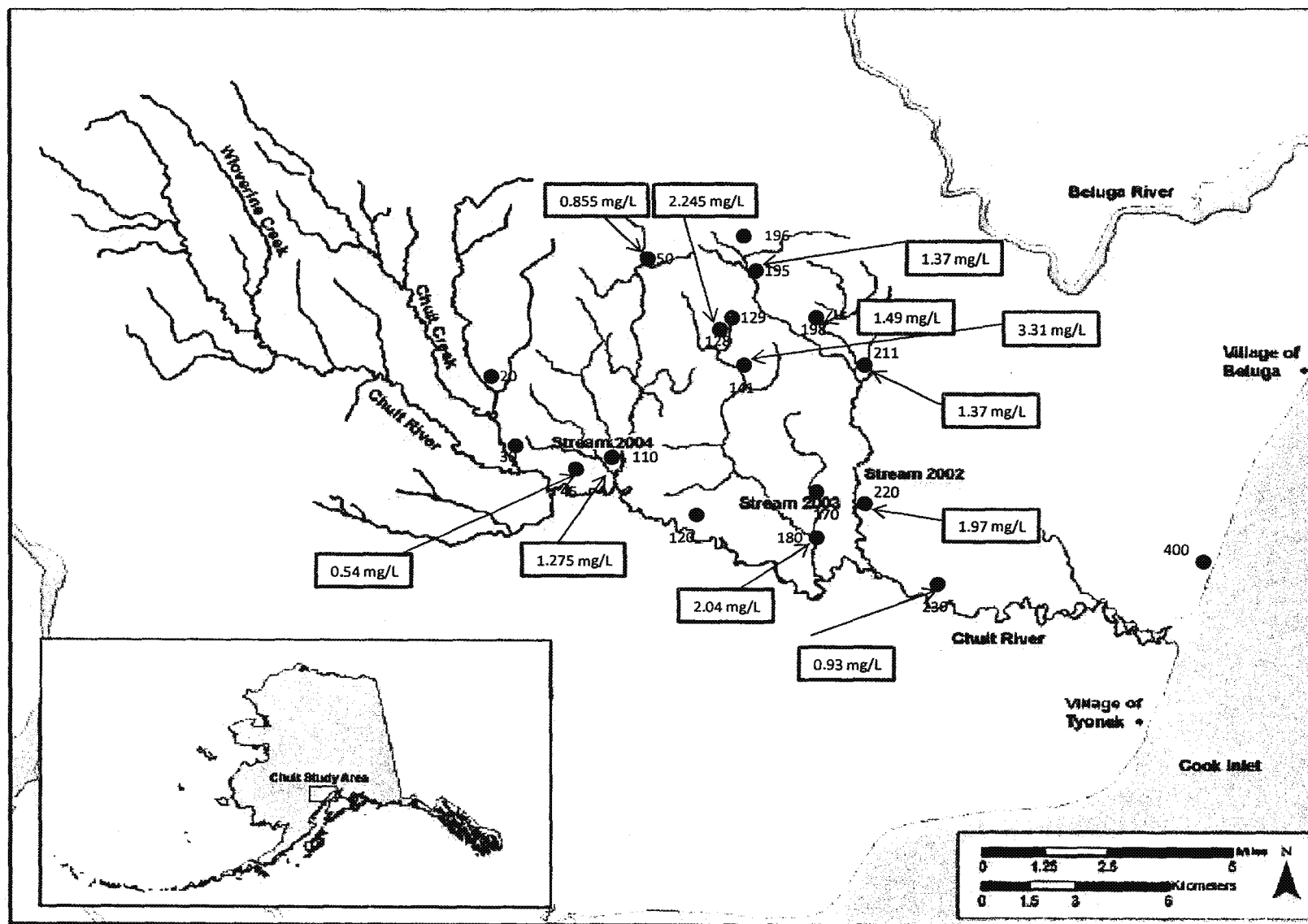


Figure 37. 75th Percentile for concentration of total Fe at various sites. Watershed 40 is shown on Figure 39.

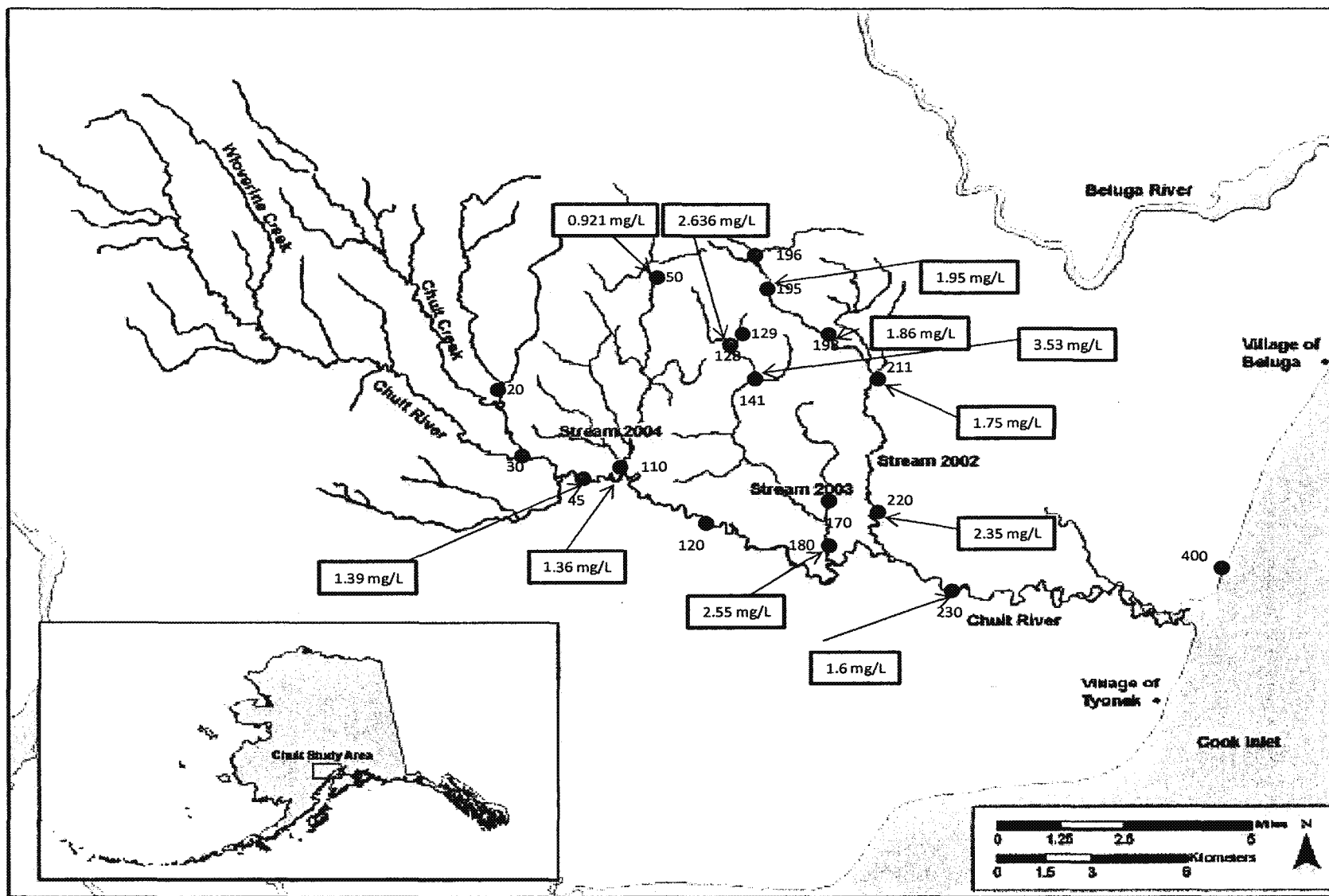


Figure 38. 90th Percentile for concentration of total Fe at various sites. Watershed 40 is shown on Figure 39.

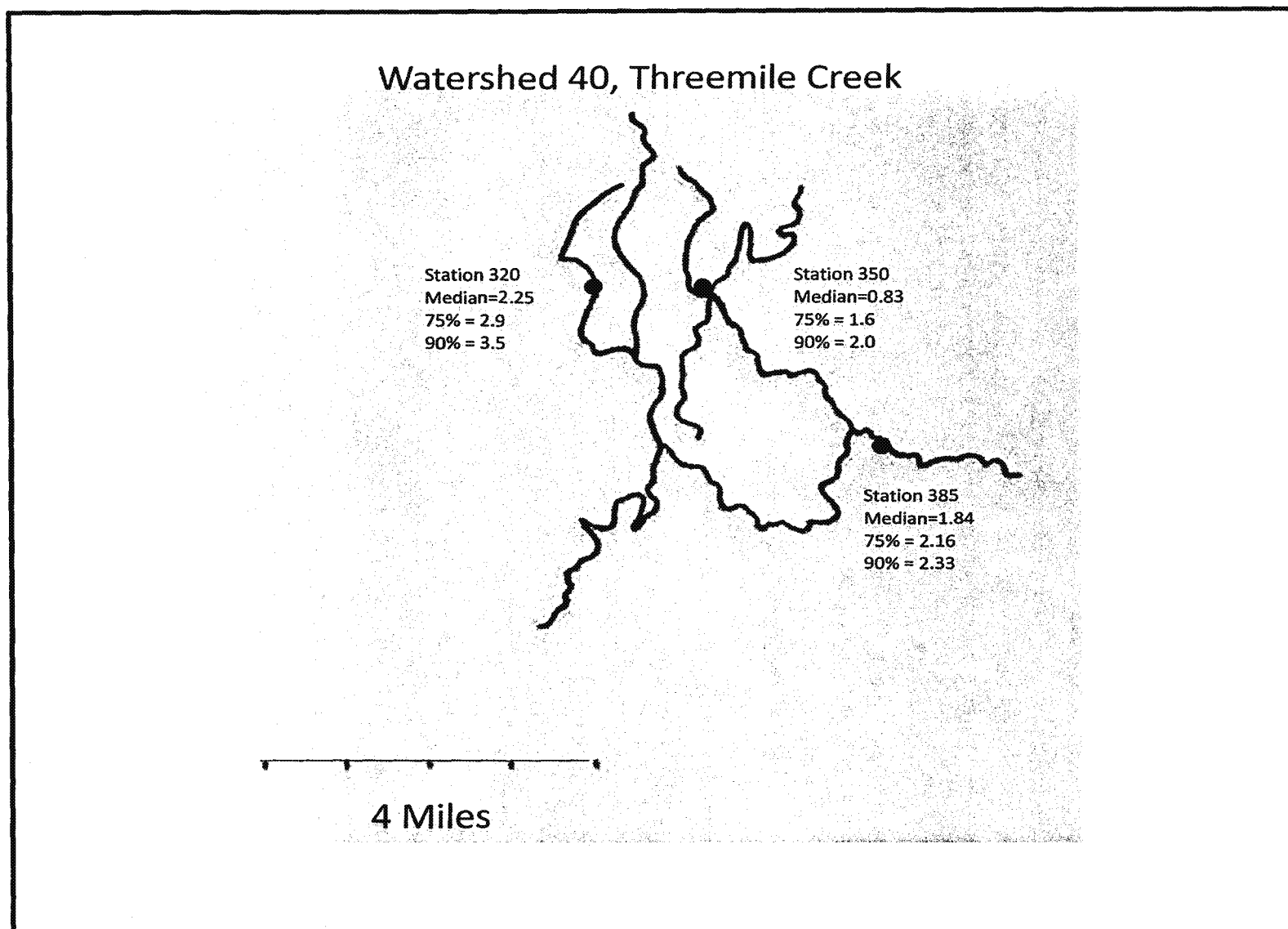


Figure 39. Median, 75th and 90th Percentile for concentration of total Fe at various sites in Watershed 40, Threemile Creek.

Summary and Remaining Questions

Water Quality

This review presents a detailed description of total iron and pH measured in the Chuitna Drainage. Water samples were not collected with sufficient frequency to determine the extent and duration of elevated iron concentrations. There appears to be an inverse correlation of elevated iron with stream flow, i.e. higher iron concentrations tend to occur during periods of lower flows. Iron in these drainages is primarily in the form of colloidal suspension; there is no evidence that the iron precipitates onto the stream bottom. Remaining questions about the iron concentrations are:

1. How frequent and of what duration are elevated iron concentrations?
2. Does the iron oxidize in the stream and form a floc?
3. Does the input of reduced iron cause a depression in oxygen concentrations that might be detrimental to aquatic life, especially in winter?
4. As waters mix downstream, does the iron form other complexes that may precipitate? Under what conditions would a precipitate form?

Biological Sampling

Tetra Tech considered the available biological data for benthic macroinvertebrates, periphyton and fish communities and compared those data to measurements of total iron collected at the same or nearby locations. Biological data were taken from reports by Oasis Environmental (2007 and 2008 and LGL Alaska Research Associates, Inc (2009).

Biological data on fish presence and use of spawning and rearing, on benthic macroinvertebrate communities and on periphyton (both as chlorophyll-a content and ash-free dry weight) suggest that drainages to the Chuit River support strong and diverse biological communities. There is no discernable relationship between prevailing water quality conditions with occasional elevated concentrations of iron and reductions in fish or other biotic populations.

Fish Studies

According to the Oasis reports, the goal of fish sampling was to document presence or absence of adult and juvenile fish, relative abundance, community composition, and identify spawning habitat. The methods used (visual observation, minnow traps, and electrofishing) are acceptable methods for identifying the presence of fish, documenting spawning, and describing the fish community. Fish samples were collected with sufficient frequency to account for different life stages. Sampling also included descriptions of habitat features where fish were found.

Spawning

The Tetra Tech Report states (Page 3-4):

Previous studies (summarized in Oasis, 2006), demonstrated that salmon spawn in all of the Chuitna tributaries, and Coho salmon, in particular, spawn in the 2003 drainage up to and including the proposed mine area (Figure 3-10). Thus, successful salmon spawning has been occurring for probably thousands of years at least, with iron concentrations over 3 mg/L. Furthermore, the adult Coho information indicates no difference in migration or spawning among tributaries, despite somewhat different iron concentrations reported. This information indicates that salmon spawning is unaffected by iron concentrations.

ADF&G has documented spawning of coho salmon into the upper reaches of 2003 Creek (reference Appendix 1). Monitoring station 128 is probably the most appropriate station to characterize water quality at the upstream spawning site. The concentration of iron at Station 128 is highly variable (Figure 14), with some high concentrations of iron. However, concentrations of total iron are not consistently above 3 mg/L.

ADF&G documented Chinook salmon spawning near the upper reaches of 2002 (Lone) Creek. Monitoring Station 195 is slightly upstream of the upstream limit of Chinook salmon spawning. Iron concentrations at this site (Figure 23) are highest in September (one sample of 2.7 mg/L), but concentrations are not consistently high. Water quality and fish data at both Stations 128 and 195 suggest that salmon spawn successfully and eggs develop within the range of iron concentrations of these two streams.

Benthic Macroinvertebrates

Oasis (2007) used standard methods for collecting and enumerating benthic invertebrate samples. Tetra Tech compared the benthic invertebrate data with total iron concentrations collected at a nearby site. Figure 2.8 of the Tetra Tech document shows locations for invertebrate and water samples and illustrates the proximity of these samples. The three orders, Ephemeroptera, Plecoptera and Trichoptera (EPT), are usually considered to be among the most sensitive to pollution and % EPT is regarded as a sensitive metric. The % EPT was not reduced in samples collected from areas with higher concentrations of total iron (Reference Figure 3-1 of the Tetra Tech document).

Increases in percent Chironomidae frequently indicate adverse or polluted conditions, usually as other, more sensitive, organisms decline. Benthic invertebrate samples from 2003 and 2004 Creeks did not show a correlation of high total iron with increases in percent Chironomidae (Reference Figure 3-2 of the Tetra Tech Report). Comparisons of benthic invertebrate populations among streams in the Chuitna drainage suggest that these streams support a healthy

and diverse invertebrate populations that are not adversely affected by prevailing water quality conditions.

Stream Periphyton

Oasis (2008) sampled stream periphyton (attached algae) at 17 sites in 2007 and 13 in 2006, at the same locations as benthic invertebrate sampling (Oasis 2008, Figure 2.2-1). Samples were collected, preserved and analyzed for ash-free dry weight and chlorophyll-a, using standard methods. Tetra Tech (2011) used results of the periphyton samples to compare with concentrations of total iron measured at the same or nearby sites. Tetra Tech found no correlation of periphyton chlorophyll-a or ash-free dry weight with concentrations of total iron. As with the comparisons to invertebrate data, there is no information on the duration or frequency of high iron concentrations or the time period periphyton was exposed to elevated iron.

Conclusions

The natural conditions of the ground waters and surface waters of the Chuitna Drainage appear to favor a form of iron that is primarily a colloidal suspension. Studies in published literature document that many of the adverse effects of iron to aquatic life result from precipitates in the stream bottom, smothering periphyton, benthic invertebrates and developing fish. Iron precipitates also damage fish gills.

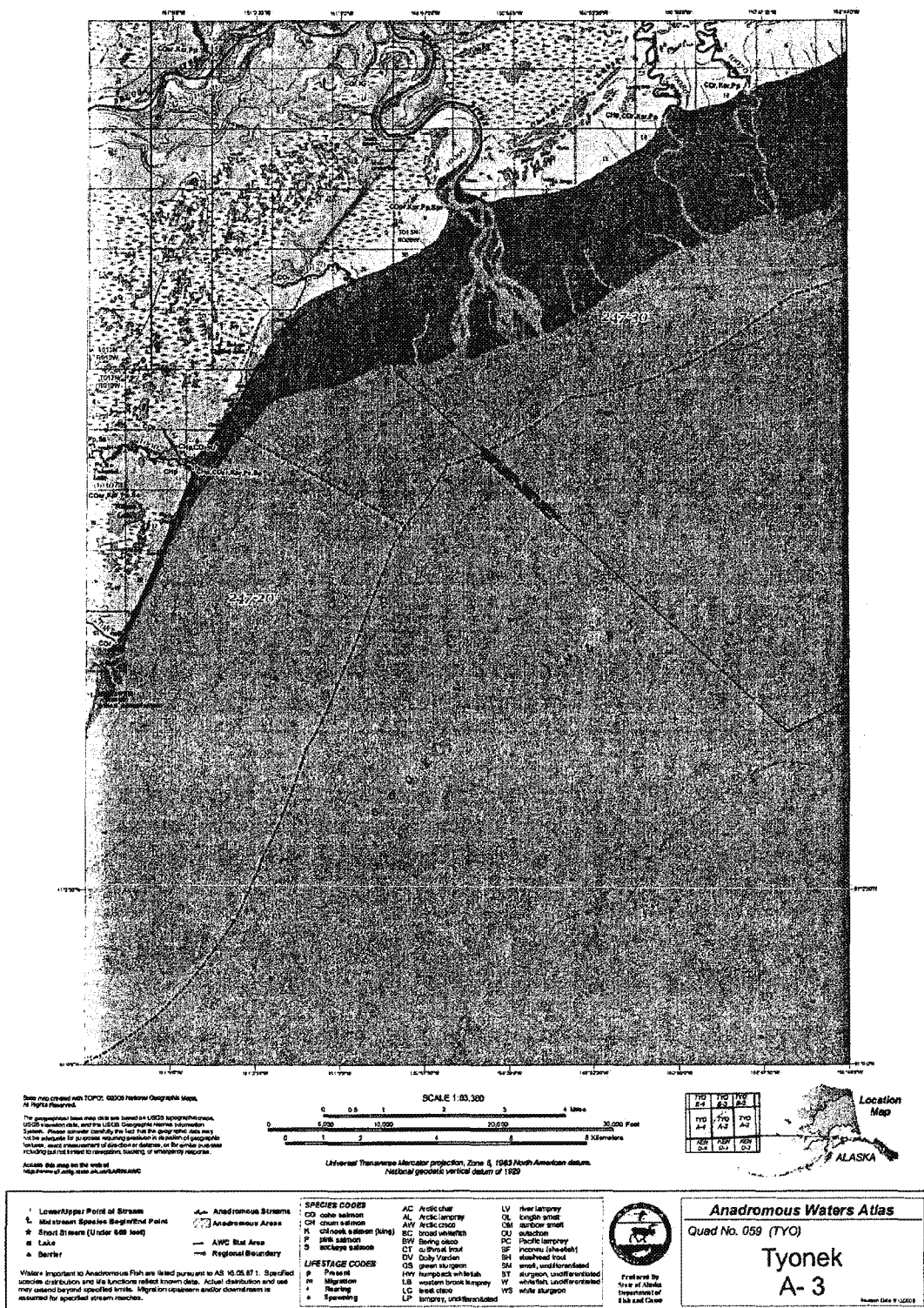
The Chuitna Drainage shows no evidence of iron precipitates. The drainage supports an abundant and diverse community of invertebrates and fish that appear unaffected by prevailing water quality conditions. Remaining questions about the water quality conditions and biological communities were identified above.

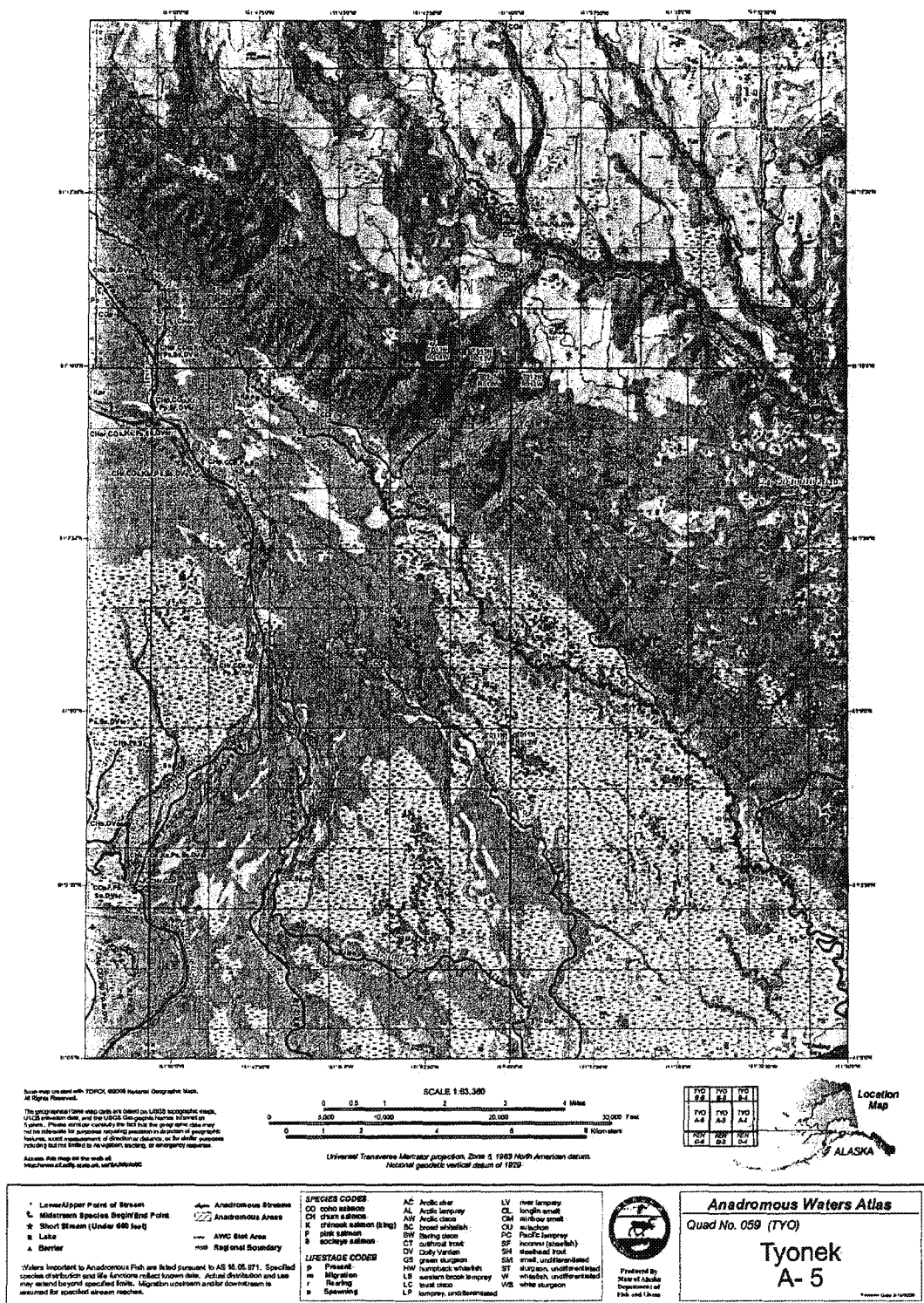
References

- Brenner FJ and Cooper WL. 1978. Effect of suspended iron hydroxide on the hatchability and embryonic development of the coho salmon. OHIO J. SCI. 78(1): 34, 1978
- Dalzell DJ and Macfarlane NAA. 1999. The toxicity of iron to brown trout and effects on the gills: a comparison of two grades of iron sulphate. Journal of Fish Biology Volume 55 (2): 301–315.
- Dave G. 1985. The Influence of pH on the Toxicity of Aluminum, Cadmium, and Iron to Eggs and Larvae of the Zebrafish, *Brachydanio rerio*. Ecotoxicology and Environmental Safety V10:253-267
- Deng Y and Stumm W. 1994. Reactivity of aquatic iron(III) oxyhydroxides – implications for redox cycling of iron in natural waters. Applied Geochemistry 9:23-36
- Linton, T.K., M.A.W. Pacheco, D.O. McIntyre, W.H. Clement, and J Goodrich-Mahoney. 2007. Development of bioassessment-based benchmarks for iron. Environmental Toxicology and Chemistry 26(6): 1291-1298.
- Milam, C.D. and J.L. Ferris. 1998. Risk identification associated with iron-dominated mine discharges and their effect upon freshwater bivalves. Environmental Toxicology and Chemistry 17(8): 1611-1619.
- Oasis Environmental. 2008. Chuitna Coal Project – 2007 Freshwater Aquatic Biology Study Program. Prepared for DRvan Corporation, Anchorage, AK. 250 pp.
- Phippen B, Horvath C, Nordin R and Nagpal N. 2008. Ambient Water Quality Guidelines For Iron. Prepared for Ministry of Environment, Province of British Columbia, Science and Information Branch Water Stewardship Division.
- Pullin MJ and Cabaniss SE. 2003. The effects of pH, ionic strength, and iron-fulvic acid interactions on the kinetics of non-photochemical iron transformations. I. Iron(II) oxidation and iron(III) colloid formation. Geochimica et Cosochemica Acta, V.67(21):4067-4077.
- Riverside Technology Inc. 2007. Chuitna Coal Project, Hydrology Component Baseline Report: Historical Data Summary. March 2007. 144 pp.
- Riverside Technology, Inc. 2009. Chuitna Coal Project Surface Water Component Baseline Report - Draft Document. Historical Data Summary.
- Tetra Tech Inc. 2011. Development of a site-specific iron water quality criterion for the Chuit River Drainage, Alaska. Draft report. January 3, 2011.

Appendix 1.

Waterways in the Chuitna Drainage designated under AS16.05.870 as important for the spawning, rearing, or migration of anadromous fish.





SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

CA # IHP-08-136
PVN PHS03222
CC: 11822001 / 11822052
EIN: 92-6001185

INVOICE DATE 10/6/2010

PERIOD COVERED 9/20/2010 - 9/23/2010

\$110.00 Hourly Rate

~~32.00~~ Total Hours this Period

\$3,520.00 Total Due this Invoice

Date Submitted	Project	Time	Product	Directed by
9/20/2010	travel to Anchorage	8.00		A. Ott
	Travel to Pebble Exploration area with ADF&G and			
9/21/2010	ADNR	8.00		A. Ott
	Review documents, meet with ADEC r.e. Chuitna Coal			
9/22/2010	Site specific	8.00		A. Ott
9/23/2010	Travel back to Albany NY	8.00	Trip report, submitted Oct. 1, 2010	A. Ott
Total Hours		32.00		

3,520.00 / 11822001 / 11822051 / 73751

Patty Smith 11808

10/6/10

FILE COPY

10/6/10
original - [signature]

Pebble Exploration Coal

October 1, 2010

Scannell Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156
(518) 732-0071

Alaska Business License No. 908201

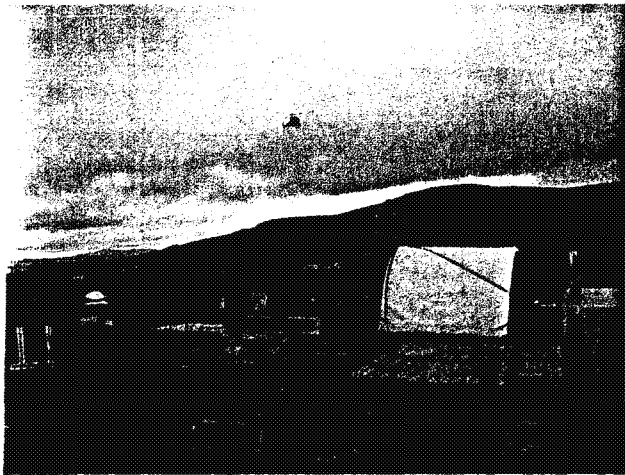
Alvin G. Ott
Program Manager
Alaska Dept. Fish and Game, Habitat Division
1300 College Road
Fairbanks, AK 99701

Dear Mr. Ott:

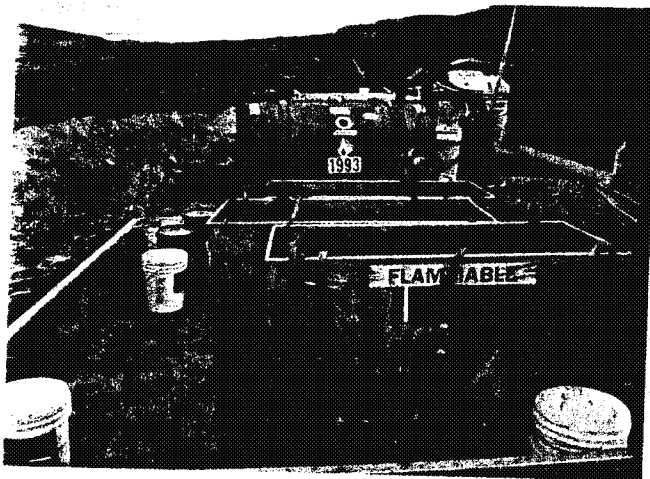
R.E. Travel to Alaska for Pebble Mine Inspection

On September 20, 2010, I traveled from Albany, NY to Anchorage, AK. I left Albany at 2:45 pm and arrived in Anchorage at 10:00 pm. After picking up the reserved rental car, I checked in to my hotel, the Courtyard Anchorage.

At 8:00 am, I met Stephanie Lovell (ADNR) and Kate Malloy (ADF&G) at Illiama Air. We traveled to the Illiama Airstrip, and then walked to the Pebble Limited Partnership (PLP) headquarters. I received the required safety training, and then we (Malloy, Lovell and I) met with PLP Mining Engineer Jim Male, who showed us maps of the area. We met PLP's helicopter and flew out to the first drill rig; Mr. Male accompanied us on the drill site inspections.



Drill Rig 4. Note the secondary fuel containment and wooden platforms to protect vegetation.



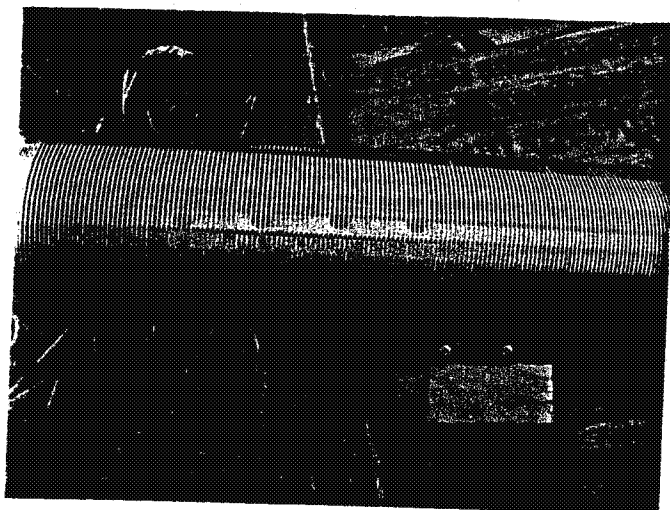
This photo, taken at the same drill site, shows the primary and secondary containment for chemicals stored at the site.

In the background is the sump for drill cuttings and to settle out water used for drilling. The material dug from the trench is stockpiled to the left of the trench.



Water Intake Structure. The water intake was 0.8 miles from the drill site. Water is pumped at 22 gpm. The screened intake consists of an infiltration gallery with 1 mm x 12 mm slotted openings. Water flows into the diffuser, then is pumped through a 1.5 i.d. hose to the drill site.

Pre-water intake ID: EX2010-DE-W
Final Water Intake ID: DDH1051-W

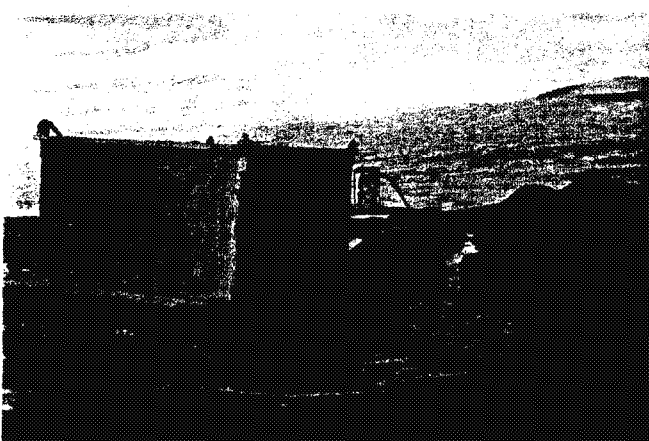


Close-up of infiltration gallery (a spare intake). Water flows through the 1 mm x 12 mm slots, then through the interior section with holes. The pump is attached at the far end of the infiltration gallery and does not pump directly across the screened intake.

Travel to Alaska, Sept. 20 – 23, 2010 October 1, 2010



Fuel and generator for water intake. This photo was taken at the water intake for drill#1: GH10 AI, although the set-up at all drill sites was identical. Note that the fuel and generator are placed on wooden pallets to protect vegetation and the fuel has secondary containment.



Water is pumped to the drill site and used for drilling. Excess water is pumped to a sump, where it is allowed to settle. Note the excavated material stored to the right of the sump. The vegetative mat also is stored until the drill rig is finished and the site is reclaimed.



Excess water is pumped uphill, away from the stream and away from the drill site and discharged to the vegetation. Water percolates through the soil/sand/gravel layers.

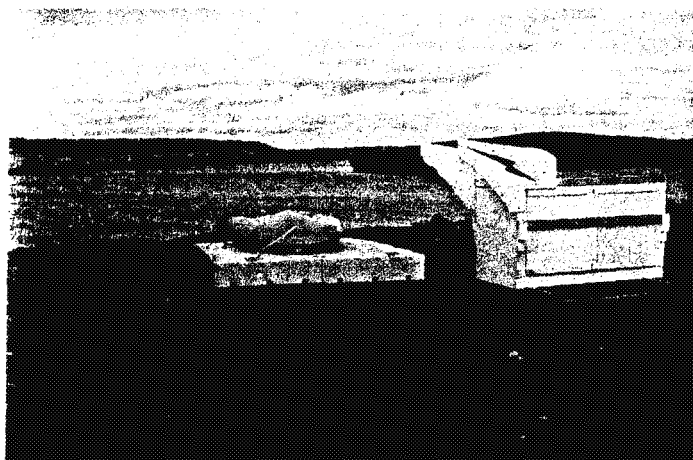
We visited 4 different drill sites (all of the operating drills). The set-up was identical at each site: equipment was stored on large wooden pallets, fuel was stored on pallets, but in secondary containment, all water intakes were identical: a 1 mm x 12 mm slotted infiltration gallery, a pump with maximum pumping velocity of 25 gpm, and placed parallel to the current. At no time did I notice clogged or ineffective infiltration galleries.

In addition to inspecting the drill sites, we went to Wiggly Lakes, the area PLP uses to fly in fuel. Mr. Male said that fuel is flown in by fixed wing, using a Beaver on floats. PLP has a wooden walkway to use for meeting the airplane. The walkway is slightly elevated above the ground to protect vegetation. Although not in use at the time of my visit, PLP also has a small dock that can be placed in Wiggly Lake.

The dock is lightweight, about 12' by 12' and easily removed. It is not a permanent structure (see photos below).



Wooden walkway, slightly elevated above ground to distribute weight and protect vegetation.



Temporary dock (with rubber raft on top) to facilitate unloading fuel. Dock is a maximum size of 12' by 12'.

General impressions: Each drill site was kept clean and free of litter. All waste is removed from the site; solid waste is disposed in Anchorage. All equipment was placed on large wooden pallets to protect the vegetation. No drilling was being conducted near water bodies.



This is drill #3, photo was taken from the site of the water pump generator. Water if pumped from the stream into a holding tank, then pumped up to the drill site because the elevation gain is too great.

Travel to Alaska, Sept. 20 – 23, 2010

October 1, 2010

We flow back to the PLP headquarters in time to meet the airplane back to Anchorage. During the inspections Mr. Male readily answered my many questions and provided much insight into the exploration project.

Wednesday, September 22, 2010.

I spent part of the day reviewing documents about the Chuitna Coal project and the proposed site specific criterion for iron. In the afternoon, I met with Allan Nakanishi and, by teleconference, Pete McGee, Jim Powell, Tim Palon, Carl Reese and Ron Benkert. We discussed the scope of work and time schedule for review of the proposed site specific criterion.

Thursday, September 23, 2010. I left the hotel early morning, returned the rental car (after filling the gas tank), and traveled to the airport. I took Delta flight 1084 to Minneapolis, leaving at 7:05 am. After transferring planes, I arrived in Albany, NY at 10:05 pm.

This concludes my travel report. I am attaching all receipts from my trip.

Respectfully submitted,



Phyllis Weber Scannell
Attachments (2 receipts)

SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

CA# IHP-10-021
PVN PHS03222
PROJECT NAME Tulsequah Chief
CODING 11845745 / 11845745
EIN 92-6001185

\$110.00 Hourly Rate
7.00 Total Hours this Period
\$770.00 Total Due this Invoice

INVOICE DATE 9/15/2010

PERIOD COVERED 8/6/2010 - 8/23/2010

Date Submitted	Project	Time	Product	Directed by
8/10/2010	update data files	3.00	Review background studies for Tulsequah	K. Howard
8/22/2010	update data files	4.00	Write Summary of background studies (Submitted to K. Howard and A. Ott on Aug. 23, 2010)	K. Howard
Total Hours		7.00		

770.00 / 11845745 / 11845745 / 73756

Patty Smith 11808

9-16-10

FILE COPY

Submitted to K. Howard and A. Ott on Aug. 23, 2010

Smith, Patricia G (DFG)

Scannell - Tulesquah

From: Howard, Kerry M (DFG)
Sent: Thursday, August 05, 2010 10:29 AM
To: Nelson, Becky L (DFG); 'Phyllis'
Cc: Ott, Alvin G (DFG); Smith, Patricia G (DFG)
Subject: RE: Tulesquah project

cc/LC:11845745

Becky: Perfect....thanks. Phyllis, please proceed with your write-up and thanks, again, for your assistance to date!- kmh

From: Nelson, Becky L (DFG)
Sent: Thursday, August 05, 2010 8:57 AM
To: Howard, Kerry M (DFG); 'Phyllis'
Cc: Ott, Alvin G (DFG); Smith, Patricia G (DFG)
Subject: RE: Tulesquah project

Hi All, yes we can pay for your time Phyllis with our pot of Canadian Mine AKSSF Funds (11845745-11845745) under our current contract with you.

Let me know if you have any questions.

Thanks

From: Howard, Kerry M (DFG)
Sent: Thursday, August 05, 2010 7:58 AM
To: 'Phyllis'; Nelson, Becky L (DFG)
Cc: Ott, Alvin G (DFG); Smith, Patricia G (DFG)
Subject: RE: Tulesquah project

Phyllis: Thanks for your email and for the time you have put in thus far. I do think your write-up will be of value to help shape what we do with the \$35.0K, and we think we have identified another pot of money that we could charge several hours of work to. Becky is going to check on that and we'll get back to you. Thanks!- kmh

P.S. By the way, is the "woolybee" your preferred email address now? Just wanted to make sure I had your most current. Thanks...

From: Phyllis [mailto:woolybee@gmail.com]
Sent: Wednesday, August 04, 2010 5:23 PM
To: Nelson, Becky L (DFG)
Cc: Howard, Kerry M (DFG); Ott, Alvin G (DFG); Smith, Patricia G (DFG)
Subject: Re: Tulesquah project

I do not plan to request any reimbursement for the time I have spent talking with Kerry, Ian Sharpe (from Canada) and the rest of the group. If I have to write something up, I would like to be able to claim the time; don't anticipate that it would be very much (maybe 2 to 3 hrs of work). But to date - don't worry about any reimbursement. I agreed to give Kerry my input because I have a background with Tulsequah and I found the question interesting.
Phyllis

On 8/4/2010 3:05 PM, Nelson, Becky L (DFG) wrote:
How much is the current invoice for?

From: Howard, Kerry M (DFG)
Sent: Wednesday, August 04, 2010 11:02 AM
To: Nelson, Becky L (DFG); Ott, Alvin G (DFG)
Cc: Smith, Patricia G (DFG); 'Phyllis'
Subject: RE: Tulsequah project

Becky: Thanks for looking into this. This is the situation—the legislature gave us \$35.0K we didn't ask for and we are trying to figure out how best to use the monies. Since the funds are good for 5 years, there isn't an urgency but since Phyllis worked on this project when she was still with the division Al suggested we informally contact her for ideas. Well, she “ran” with ideas and has spent some time talking to regulators in B.C. to try to figure out a good use of this money. It may be awhile before we know, because the company hoping to permit the mine doesn't have secure financing yet, and the B.C. regulator's interest in working with us on the project is partially contingent on that outcome.

We need to find a way to pay Phyllis for any time she has put in thus far, which hopefully isn't a large amount, but then need to advise her of our limitations. It is kind of a catch 22—we would like her help in designing a project, but we can't set up an official contract yet because we don't know exactly what the project will look like. Thoughts?

And, by copy of this note to Phyllis, until we figure this out, best not to put in any more time and please give us your best estimate of costs to date so we can try to figure out a way to pay you. Thanks!- kmh

From: Nelson, Becky L (DFG)
Sent: Wednesday, August 04, 2010 10:45 AM
To: Howard, Kerry M (DFG); Ott, Alvin G (DFG)

Cc: Smith, Patricia G (DFG)
Subject: RE: Tulesquah project
Importance: High

We have a slight problem! We do not have a contract with Phyllis to do the work on the Tulsequah. We cannot use the current contract we have with her according to Tom Taylor we got around contracting with her without going out for bids as other companies were paying for the contract. Our \$35,000 for the Tulsequah is GF so we need to go out for bids for the contract. Depending on how much you are proposing for the contract will depend on whether we get verbal or written bids. So a scope of work will have to be drafted and if it is over \$25,000 we will have to go out for bids. Tom is more than happy to work with us and keep us out of trouble and to insure we everything by the book.

From: Howard, Kerry M (DFG)
Sent: Friday, July 30, 2010 7:57 AM
To: Nelson, Becky L (DFG); Ott, Alvin G (DFG); 'Phyllis'
Subject: RE: Tulesquah project

That works...thanks, Becky-kmh

From: Nelson, Becky L (DFG)
Sent: Thursday, July 29, 2010 5:05 PM
To: Howard, Kerry M (DFG); Ott, Alvin G (DFG); Phyllis
Subject: RE: Tulesquah project

I'll have to wait to really respond until I'm back in the office on Monday as I'll need to read the scope of work attached to the Tulsequah project.

From: Howard, Kerry M (DFG)
Sent: Thu 7/29/2010 2:18 PM
To: Ott, Alvin G (DFG); Phyllis; Nelson, Becky L (DFG)
Subject: RE: Tulesquah project

I agree. I believe we have flexibility within the CIP funds to charge to contractual, but Becky can advise us. Thanks-kmh

From: Ott, Alvin G (DFG)
Sent: Thu 7/29/2010 2:00 PM
To: Howard, Kerry M (DFG); Phyllis; Nelson, Becky L (DFG)
Subject: RE: Tulesquah project

My preference would be to charge it to the Tulsequah project.

Our contract with Phyllis when it is used, charges the projects to the appropriate RSA we have for the mine project.

From: Howard, Kerry M (DFG)
Sent: Thursday, July 29, 2010 1:49 PM
To: Phyllis; Nelson, Becky L (DFG)

Cc: Ott, Alvin G (DFG)

Subject: RE: Tulesquah project

I suggest charging it either to the CIP funds we received for the Taku study or to our general contract that we have with you. Becky, Al--thoughts?- kmh

From: Phyllis [<mailto:woolybee@gmail.com>]

Sent: Thu 7/29/2010 1:41 PM

To: Howard, Kerry M (DFG); Nelson, Becky L (DFG)

Subject: Tulesquah project

Kerry,

I talked with Al this afternoon about writing up the summary for the Tulsequah project. How should I charge my time for this work?

Phyllis

PHS03222

SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

\$2,090.00 / 11833033 / 11833033 / 73756
2,090.00 / 11833072 / 11833072 / 73756

Patty Smith 11808

3/4/10

CA IHP-10-121
ASP#
CC / LC 11833033 / 11833033 50%
CC/LC 11833072/11833072 50%
EIN: 92-6001185

\$110.00 Hourly Rate

38.00 Total Hours this Period

\$4,180.00 Total Due this Invoice

INVOICE DATE

3/3/2010

PERIOD COVERED

11/1/09 - 1/19/2010

Date Submitted	Project	Time	Product	Directed by
11/20/2009	update data files	2.00	Station 10	A. Ott
11/23/2009	update data files	2.00	Bons 220	A. Ott
12/8/2009	update data files	2.00	Bons above the pond	A. Ott
12/8/2009	update data files	2.00	Bons Reservoir	A. Ott
12/8/2009	update data files	2.00	Buddy 221	A. Ott
12/8/2009	update data files	2.00	Buddy Creek	A. Ott
12/8/2009	update data files	2.00	Upper Bons	A. Ott
12/23/2009	update data files	2.00	Station 12	A. Ott
12/23/2009	update data files	2.00	Station 9	A. Ott
12/23/2009	update data files	2.00	Station 20	A. Ott
1/3/2010	update data files	2.00	Station 160	A. Ott
1/8/2010	update data files	2.00	Outfall 2008	A. Ott
1/9/2010	update data files	2.00	Outfall 2009	A. Ott
1/10/2010	update data files	2.00	Station 140	A. Ott
1/11/2010	update data files	2.00	Station 150	A. Ott
1/11/2010	update data files	2.00	Station 151	A. Ott
1/12/2010	update data files	2.00	Station 151	A. Ott
1/19/2010	update data files	4.00	Connie Creek 1995-2009	A. Ott

Total Hours

38.00

FILE COPY

To Tom Taylor
3/4/10

PHS03222

SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

IHP-08-136
ASP# 10-08-033
CC:

EIN: 92-6001185

INVOICE DATE 3/9/2009

\$110.00 Hourly Rate
25.00 Total Hours this Period

PERIOD COVERED 1/1/09 - 2/28/09

\$2,750.00 Total Due this Invoice

Date Submitted to ADFG	Project	Time	Product	Directed by
1/2/2009		2.00	Station 9	A. Ott
1/13/2009		2.00	Station 10	A. Ott
1/13/2009		2.00	Station 12	A. Ott
1/14/2009		2.00	Station 150	A. Ott
1/28/2009		3.00	Station 151	A. Ott
2/3/2009		2.00	Buddy Cr, Station 221	A. Ott
2/3/2009		2.00	Station 140	A. Ott
2/3/2009		2.00	Station 160	A. Ott
2/3/2009		2.00	Station 20	A. Ott
2/3/2009		1.50	Data file on Qualified Samples	A. Ott
2/18/2009		3.00	Edit and final format of Cu paper	A. Ott
2/25/2009		1.50	Bons Creek, Station 220	A. Ott
	Total Hours	25.00		

330.00 / 11822062 / 11822062 / 73751

✓ 2,035.00 / 11833033 / 11833033 / 73751

✓ 385.00 / 11833072 / 11833072 / 73751

Patty Smith 11808

3/9/09

FILE COPY
3/9/09 Copy to:
Tom Tavino

Smith, Patricia G (DFG)

From: Smith, Patricia G (DFG)
Sent: Thursday, March 26, 2009 1:56 PM
To: Taylor, Tom (DFG)
Cc: Nelson, Becky L (DFG)
Subject: Contract Renewal IHP-08-136 Scannell
Attachments: Draft ToxicologyContract2009.doc

This current contract will expire December 31, 2009. I know I am really ahead of myself, but since I was working on the other renewals, I went ahead and did this one. Let me know if you need any other information.

Thanks,

Patty Smith

Dept of Fish and Game
Division of Habitat

3/26/2009

EPA-7609-0007230_00143

SCANNELL Scientific
Phyllis Weber Scannell, PhD
1235 Schodack Landing Road
Schodack Landing, NY 12156

CA: IHP-10-021
PROJECT: Chuitna Coal Project
CC / LC: 11822072 / 11822072
PVN: PHS03222

INVOICE DATE 10/15/2010

\$110.00 Hourly Rate
33.50 Total Hours this Period

PERIOD COVERED October 7-15, 2010

\$3,685.00 Total Due this Invoice

Date Submitted	Project	Time	Product	Directed by
10/7/2010	Site-specific criterion for Fe	4.00	written comments	A. Nakashina
10/8/2010	Site-specific criterion for Fe	4.00	written comments	A. Nakashina
10/9/2010				
10/10/2010				
10/11/2010				
10/12/2010	Site-specific criterion for Fe	8.00	written comments	A. Nakashina
10/13/2010	Site-specific criterion for Fe	8.00	written comments	A. Nakashina
10/14/2010	Site-specific criterion for Fe	4.00	written comments	A. Nakashina
10/15/2010	Site-specific criterion for Fe	3.00	written comments	A. Nakashina
10/19/2010		0.50	teleconference	
10/21/2010		2.00	teleconference	
Total Hours		<u>33.50</u>		

3,685.00 / 11822072 / 11822072 / 73751

Patty Smith

11808

10/26/10

FILE COPY

original - Tom Taylor
Copy - Donna M. (R2)

Smith, Patricia G (DFG)

From: Phyllis [phyllisscannell@gmail.com]
Sent: Monday, October 25, 2010 12:07 PM
To: Nakanishi, Allan S (DEC); Smith, Patricia G (DFG); Ott, Alvin G (DFG)
Subject: invoice for Chuitna project
Attachments: chuitna invoice.xlsx

Attached is a file containing my work time for the Chuitna coal project and site specific criteria. The project is not yet complete, I anticipate further review of the revised site specific and finalization of my comments. The attached file contains my work time to date.

Please let me know if you have any questions.

Thanks.

Phyllis W. Scannell

SCOPE OF WORK

Technical review of the report titled "Development of a Site-Specific Iron Water Quality Criterion for the Chuit River Drainage, Alaska", Tetra Tech Inc, March 25, 2010

The scope of work will be to evaluate the Tetra Tech report as a stand-alone report that the State may use in support of a decision to either move forward on a water quality standard rule-making process or request additional information from the applicant. The focus of this work will be to provide a report documenting the review of the applicability of the method for establishing a site specific criterion for iron in the Chuit River drainage. The report should provide an evaluation the following:

1. Data collection – purpose of data collection, site selection, sample interval/times;
2. Data sensitivity to the iron concentration;
3. Statistic methods used to evaluate and compare the data;
4. Quality, quantity, and applicability of the biologic and chemical data used to support the conclusions;
5. Sited literature and appropriateness to this assessment;
6. Literature support for the quantitative conclusions;
7. Are the iron, macroinvertebrate, and fish data and the methods they are based on appropriate for the iron site-specific criteria analysis, and if so, were the data appropriately used?
 - Are the temporal and spatial relationships between the iron data and the macroinvertebrate data, and the iron data and the fish data, respectively, adequate for the analysis, i.e., are the data adequately "paired?"
 - Are the data of acceptable quality?
 - Are the analytical detection and quantitation limits for iron adequately sensitive?
 - Are the biological metrics used adequately sensitive? For example, is "percent salmonids" a sensitive metric if the fish numbers for the waters in question are expected to be dominated by salmonids regardless of abundance?
 - Where appropriate thresholds used for each metric to distinguish between biological conditions in attainment of ADEC's designated aquatic life uses and non-attainment?
 - Were the mean iron concentrations calculated using appropriate averaging periods (e.g. annual means where used vs., for example, means of data collected prior to or on the date of biological data collection)?
 - Are the statistical methods used appropriate for this analysis and were the statistics appropriately applied?
8. Do the data support the conclusions?
 - Does the analysis support a conclusion that the biology would be supported, at a condition attaining ADEC's designated aquatic life uses, at the maximum iron concentrations, vs. the mean concentrations, given that the data do not reflect continued exposure of the biology to the maximums?
 - Given that iron concentrations varied from site to site, by more than two fold for the means, is it appropriate to conclude that the highest means would be protective at all sites throughout the basin?

9. Flaws or other shortcomings in support of the conclusions; and
10. Long-term protectiveness to the environment of proposed criteria.

Proposed Project Timeline

September 22 Kick-off Teleconference

October 15 Draft Report Submittal to ADFG/ADEC

October 20 Draft Report Review comments to Phyllis

October 21 Review comments discussion/teleconference

October 30 Final Report Submittal to ADFG/ADEC

Conditions

All reference documents used in Literature Cited in the Mn report will be provided by the applicant, PacRim Coal. The product due to the Department of Fish and Game and Department of Environmental Conservation will be a report including key findings, as described above, along with an annotated bibliography of important references used in the evaluation.

Project cost for this review is not exceed \$12,000.

Smith, Patricia G (DFG)

From: Ott, Alvin G (DFG)
Sent: Monday, September 13, 2010 1:18 PM
To: Nelson, Becky L (DFG)
Cc: Smith, Patricia G (DFG); Phyllis
Subject: FW: Chuit River drainage, site specific iron criterion
Attachments: 100913_IronSSC_SoW.docx

Categories: TO DO

Request Approval to Proceed

Our existing agency contract is IHP-10-021 with Dr. Phyllis Weber Scannell. The contract covers work related to hardrock mines and is set up to specifically define scopes of work and cost. This specific scope of work as developed by the Alaska Department of Environmental Conservation and Dr. Weber Scannell is for a technical review of the report titled "Development of a Site-Specific Iron Water Quality Criterion for the Chuit River Drainage, Alaska", Tetra Tech Inc. March 25, 2010. The scope of work and cost are included in the attachment. Project cost is not to exceed \$12,000. All costs will be charged to the RSA we have for the Chuit proposed coal mine project.

Patty has checked our files and under this new contract which started January 1, 2010, and ends on December 31, 2011 (not to exceed \$50,000), Dr. Weber Scannell has done only water quality work (update of files for Red Dog) at a cost of about \$4,000.

From: Nakanishi, Allan S (DEC)
Sent: Monday, September 13, 2010 11:28 AM
To: Ott, Alvin G (DFG)
Cc: McGee, William D (DEC); phyllis@lacewing.net; Nakanishi, Allan S (DEC)
Subject: RE: Chuit River drainage, site specific iron criterion

Al,

Please make arrangements for the work order under your existing contract with Phyllis Weber-Scannell. I spoke with her today and confirmed the timeline and work order amount of \$12,000. The Scope of Work document has been updated. Please include it as an attachment with the work order.

Thank you!

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

RS 1019646

From: Ott, Alvin G (DFG)
Sent: Wednesday, August 25, 2010 11:09 AM
To: McGee, William D (DEC)
Cc: Nakanishi, Allan S (DEC)
Subject: RE: Chuit River drainage, site specific iron criterion

This is the closest example that I have – Phyllis completed this work, we had several internal reviews, and the result was Tech Report No. 09-04 "Effects of Copper on Aquatic Species: A Review of the Literature (June 2009). My admin person is out until Monday, and I can't find the final bill, but I'm fairly sure it was around \$13,000.

From: McGee, William D (DEC)
Sent: Wednesday, August 25, 2010 7:55 AM
To: Ott, Alvin G (DFG)
Cc: Nakanishi, Allan S (DEC)
Subject: FW: Chuit River drainage, site specific iron criterion

Do you have some examples of projects that Phyllis has worked on with the not to exceed amount and the actual amount she charged? Is there a project similar the this one that we can use as an example?

Thanks
Pete

From: Nakanishi, Allan S (DEC)
Sent: Wednesday, August 25, 2010 6:48 AM
To: McGee, William D (DEC)
Subject: Fwd: Chuit River drainage, site specific iron criterion

80

Allan S.Nakanishi
DEC - WDAP
Mining & Technical Services
555 Cordova St.
Anchorage, AK 99501
907.269.4028

Begin forwarded message:

From: Phyllis <woolybee@gmail.com>
Date: August 24, 2010 1:24:10 PM PDT
To: "Nakanishi, Allan S (DEC)" <allan.nakanishi@alaska.gov>
Subject: Re: FW: Chuit River drainage, site specific iron criterion

Hi, Allan,
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Here's a second attempt at responding to your questions.

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Allan S. Nakanishi, P.E.

Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

From: Nakanishi, Allan S (DEC)

Sent: Wednesday, August 11, 2010 1:43 PM

To: Phyllis

Cc: McGee, William D (DEC); Ott, Alvin G (DFG); Nakanishi, Allan S (DEC)

Subject: RE: Chuit River drainage, site specific iron criterion

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Sent: Wednesday, August 04, 2010 10:56 AM

To: Phyllis

Cc: Nakanishi, Allan S (DEC); McGee, William D (DEC); Taylor, Tom (DFG); Smith, Patricia G (DFG); Nelson, Becky L (DFG)

Subject: Chuit River drainage, site specific iron criterion

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Smith, Patricia G (DFG)

From: Ott, Alvin G (DFG)
Sent: Monday, August 02, 2010 2:15 PM
To: Smith, Patricia G (DFG)
Subject: RE: New Work Scope for Phyllis Weber Scannell

Why are we contracting for DEC work? DEC felt it would be easier for us to do it under our existing contract. What exactly is she going to do? A work scope will be developed and agreed to, but basically it is work to assist ADEC in developing a site-specific criterion for iron for the Chuitna Mine Project.

This type of work is well within the scope of the work specified in the contract.

What is the funding source for this work? It will be the RSA we have with DNR for the Chuitna Mine Project.

From: Smith, Patricia G (DFG)
Sent: Monday, August 02, 2010 1:19 PM
To: Ott, Alvin G (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

Al, can you clarify . . .

*Thanks,
Patty*

From: Taylor, Tom (DFG)
Sent: Monday, August 02, 2010 12:21 PM
To: Smith, Patricia G (DFG)
Cc: Nelson, Becky L (DFG)
Subject: RE: New Work Scope for Phyllis Weber Scannell

Let's see here...

Why are we contracting for DEC work?

What exactly is she going to do? We will need to make sure that it is in keeping with the scope of work specified in the contract.

What is the funding source for this work?

From: Smith, Patricia G (DFG)
Sent: Monday, August 02, 2010 10:58 AM
To: Taylor, Tom (DFG)
Cc: Nelson, Becky L (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

The below email references IHP-10-021. Do you foresee any problems?

*Thanks,
Patty*

From: Ott, Alvin G (DFG)
Sent: Friday, July 30, 2010 10:26 AM
To: Nelson, Becky L (DFG); Smith, Patricia G (DFG)

Cc: Benkert, Ronald C (DFG); Howard, Kerry M (DFG); Daigneault, Michael J (DFG); Marie, Megan E (DFG)

Subject: New Work Scope for Phyllis Weber Scannell

I've been asked by ADEC to use our existing contract with Phyllis to cover her work on a site-specific criterion for iron for the Chuitna Mine Prospect. ADEC will put the work scope together and then we will reach agreement with Phyllis on the scope of work and the cost. If needed, ADEC will then reduce their RSA with DNR by the appropriate amount and add it to our RSA for the Chuitna Mine Prospect.

I don't know the cost yet, but just wanted to check to make sure this was going to be OK with you under the existing contract. Our existing contract with Phyllis goes through December 2011 and has a limit of \$50,000. We've spent less than 5K so far. Also I am assuming that the contract that Jackie Timothy has with Phyllis for the Stikine River data analysis and summary is totally separate and does not affect the one we have here in Fairbanks.

Cc: Nakanishi, Allan S (DEC)

Subject: RE: Chuit River drainage, site specific iron criterion

This is the closest example that I have – Phyllis completed this work, we had several internal reviews, and the result was Tech Report No. 09-04 "Effects of Copper on Aquatic Species: A Review of the Literature (June 2009). My admin person is out until Monday, and I can't find the final bill, but I'm fairly sure it was around \$13,000.

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Sent: Wednesday, August 25, 2010 7:55 AM

To: Ott, Alvin G (DFG)

Cc: Nakanishi, Allan S (DEC)

Subject: FW: Chuit River drainage, site specific iron criterion

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Thanks

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To: McGee, William D (DEC)

Subject: Fwd: Chuit River drainage, site specific iron criterion

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Allan S.Nakanishi

DEC - WDAP

Mining & Technical Services

555 Cordova St.

Anchorage, AK 99501

907.269.4028

Begin forwarded message:

From: Phyllis <woolybee@gmail.com>

Date: August 24, 2010 1:24:10 PM PDT

To: "Nakanishi, Allan S (DEC)" <allan.nakanishi@alaska.gov>

Subject: Re: FW: Chuit River drainage, site specific iron criterion

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Phyllis

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Monday, September 13, 2010 1:18 PM
To: Nelson, Becky L (DFG)
Cc: Smith, Patricia G (DFG); 'Phyllis'
Subject: FW: Chuit River drainage, site specific iron criterion
Attachments: 100913_IronSSC_SoW.docx

Request Approval to Proceed

Our existing agency contract is IHP-10-021 with Dr. Phyllis Weber Scannell. The contract covers work related to hardrock mines and is set up to specifically define scopes of work and cost. This specific scope of work as developed by the Alaska Department of Environmental Conservation and Dr. Weber Scannell is for a technical review of the report titled "Development of a Site-Specific Iron Water Quality Criterion for the Chuit River Drainage, Alaska", Tetra Tech Inc. March 25, 2010. The scope of work and cost are included in the attachment. Project cost is not to exceed \$12,000. All costs will be charged to the RSA we have for the Chuit proposed coal mine project.

Patty has checked our files and under this new contract which started January 1, 2010, and ends on December 31, 2011 (not to exceed \$50,000), Dr. Weber Scannell has done only water quality work (update of files for Red Dog) at a cost of about \$4,000.

From: Nakanishi, Allan S (DEC)
Sent: Monday, September 13, 2010 11:28 AM
To: Ott, Alvin G (DFG)
Cc: McGee, William D (DEC); phyllis@lacewing.net; Nakanishi, Allan S (DEC)
Subject: RE: Chuit River drainage, site specific iron criterion

Al,

Please make arrangements for the work order under your existing contract with Phyllis Weber-Scannell. I spoke with her today and confirmed the timeline and work order amount of \$12,000. The Scope of Work document has been updated. Please include it as an attachment with the work order.

Thank you!

Allan S. Nakanishi, P.E.
Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
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555 Cordova Street
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Subject: Scope of Work - Copper Effects
Attachments: Copper Work Scope Phyllis Weber Scannell.doc

Phyllis, enclosed is a proposed scope of work for conducting a literature review on effects of copper to specific cold water fish species. Just let me know via email if the work scope is acceptable, including the time frame for completion. Thank You.

7/21/2008

EPA-7609-0007230_00185

WORK SCOPE

Effects of Copper on Aquatic Resources, Literature Review

The focus of this work will be on effects of copper to cold water fish species (Pacific salmon, Arctic grayling, Dolly Varden, and rainbow trout) and how acute and chronic toxicities found in the literature compare with existing State of Alaska and/or federal (Environmental Protection Agency) water quality standards. Information pertinent to how the existing standards were set should be provided. Effects to adult migration (e.g., homing to natal streams), juvenile fish, and egg fertilization, incubation, and fry survival will be part of this review. The product due to the Division of Habitat will be a report including key findings along with an annotated bibliography of important references. Project cost for this preliminary literature review is between \$7,000 and \$15,000. A draft report shall be prepared for our review. We anticipate that this project will be completed by October 30, 2008.

We view this effort as a first step at looking at copper effects on specific cold water fish species.

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Subject: Re: Chuit River drainage, site specific iron criterion

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I have looked over the scope of work for the Chuit River proposed site specific. I have a few questions:
What is DEC's time line for getting this done? My time to do the project depends on the priority - do you need it yesterday, by the first of the year?

Suppose that some critical site-specific data are missing? Are water samples being collected at the site? Can we propose a sampling program to fill in any missing pieces? I'm not saying this is the case, but I am trying to anticipate what will be needed.

Is there good information on the fish: which species are there, when and where they spawn, where rearing occurs, etc?
Is the site gauged for stream flow?

I likely will have more questions as this progresses, but that's it for now.

Phyllis

p.s. Starlings have fled, bats moved back to the barn.

On 8/6/2010 8:44 PM, Nakanishi, Allan S (DEC) wrote:
Phyllis,

I've updated the scope of work to include the comments from Bill Beckwith, EPA. Please consider these modifications to the original scope of work when developing your cost estimate.

We look forward to hearing from you! P.S. How is the squirrel and bird habitat relocation project (house restoration project) going?

Regards,

-allan

Allan S. Nakanishi, P.E.

Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501
907.269.4028

From: Ott, Alvin G (DFG)

Sent: Wednesday, August 04, 2010 10:56 AM

To: Phyllis

Cc: Nakanishi, Allan S (DEC); McGee, William D (DEC); Taylor, Tom (DFG); Smith, Patricia G (DFG); Nelson, Becky L (DFG)

Subject: Chuit River drainage, site specific iron criterion

Phyllis, here is a draft proposed scope of work for the site-specific water quality iron criterion for the Chuit River drainage. Please work with ADEC on any proposed modifications and keep me posted. Tom Taylor – could you check to make sure this is within the scope of our existing contract (IHP-10-021) with Phyllis Weber Scannell.

Ott, Alvin G (DFG)

From: Phyllis [woolybee@gmail.com]
Sent: Friday, August 13, 2010 6:57 AM
To: Nakanishi, Allan S (DEC)
Cc: McGee, William D (DEC); Ott, Alvin G (DFG)
Subject: Re: Chuit River drainage, site specific iron criterion

Allen

I have looked over the scope of work for the Chuit River proposed site specific. I have a few questions:

What is DEC's time line for getting this done? My time to do the project depends on the priority - do you need it yesterday, by the first of the year?

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Subject: Chuit River drainage, site specific iron criterion

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Ott, Alvin G (DFG)

From: Nakanishi, Allan S (DEC)
Sent: Wednesday, August 11, 2010 1:43 PM
To: Phyllis
Cc: McGee, William D (DEC); Ott, Alvin G (DFG); Nakanishi, Allan S (DEC)
Subject: RE: Chuit River drainage, site specific iron criterion

Phyllis,

A proposed timeline and answers to your questions is below. If this looks OK to you, I'll add these details to the scope of work.

Proposed Project Timeline

Sept. 1 - Kick-off Teleconference: September 1 (depending on contract start)

Sept. 30 - Draft Report Submittal to ADFG/ADEC

Oct. 5 - Draft Report Review comments to Phyllis

Oct. 7 - Review comments discussion/teleconference

Oct. 11 - Final Report Submittal to ADFG/ADEC

Oct. 30 - Provide PacRim with State's decisions for all criteria changes (WER, Fe Criteria, & Mn Criteria) by Oct. 31, 2010.

Answers to your other questions:

- Suppose that some critical site-specific data are missing?
- Are water samples being collected at the site?
- Can we propose a sampling program to fill in any missing pieces?
- Is there good information on the fish: which species are there, when and where they spawn, where rearing occurs, etc?
- Is the site gauged for stream flow?

The scope of work will be to evaluate the Tetra Tech report as a stand-alone report. The questions you posed are the types of questions we need raised, but not necessarily answered, in your evaluation. If you find that the literature used in support of the proposed revision to the Mn standard does not support the conclusions, or if data are inadequate, missing, or misinterpreted, please state that in your report. Whether the data are adequate and appropriate are also important comments from you that the State will use in support of a decision to either move forward on the rule-making process or request additional information from the applicant.

Other Assumptions

All reference documents used in Literature Cited in the Mn report will be provided to you by PacRim/TetraTech.

Thanks Phyllis!

-allan

Allan S. Nakanishi, P.E.

Dept. of Environmental Conservation
Wastewater Discharge Authorization Program
Engineering/Mining Technical Services
555 Cordova Street
Anchorage, Alaska 99501

From: Phyllis [mailto:woolybee@gmail.com]
Sent: Wednesday, August 11, 2010 10:20 AM
To: Nakanishi, Allan S (DEC)
Cc: McGee, William D (DEC); Ott, Alvin G (DFG)
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Ott, Alvin G (DFG)

From: Nakanishi, Allan S (DEC)
Sent: Friday, August 06, 2010 4:45 PM
To: 'Phyllis'
Cc: McGee, William D (DEC); Beckwith.William@epamail.epa.gov; Powell, James E (DEC); Sonafrank, Nancy B (DEC); Ott, Alvin G (DFG); Nakanishi, Allan S (DEC)
Subject: RE: Chuit River drainage, site specific iron criterion
Attachments: 100806_IronSSC_SoW.docx

Phyllis,

I've updated the scope of work to include the comments from Bill Beckwith, EPA. Please consider these modifications to the original scope of work when developing your cost estimate.

We look forward to hearing from you! P.S. How is the squirrel and bird habitat relocation project (house restoration project) going?

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Sent: Wednesday, August 04, 2010 10:56 AM
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Cc: Nakanishi, Allan S (DEC); McGee, William D (DEC); Taylor, Tom (DFG); Smith, Patricia G (DFG); Nelson, Becky L (DFG)
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DRAFT

SCOPE OF WORK

Technical review of the report titled "Development of a Site-Specific Iron Water Quality Criterion for the Chuit River Drainage, Alaska", Tetra Tech Inc, March 25, 2010

The focus of this work will be to provide a report documenting the review of the applicability of the method for establishing a site specific criterion for iron in the Chuit River drainage. The report should provide an evaluation the following:

1. Data collection – purpose of data collection, site selection, sample interval/times;
2. Data sensitivity to the iron concentration;
3. Statistic methods used to evaluate and compare the data;
4. Quality, quantity, and applicability of the biologic and chemical data used to support the conclusions;
5. Sited literature and appropriateness to this assessment;
6. Literature support for the quantitative conclusions;
7. Are the iron, macroinvertebrate, and fish data and the methods they are based on appropriate for the iron site-specific criteria analysis, and if so, were the data appropriately used?
 - Are the temporal and spatial relationships between the iron data and the macroinvertebrate data, and the iron data and the fish data, respectively, adequate for the analysis, i.e., are the data adequately "paired?"
 - Are the data of acceptable quality?
 - Are the analytical detection and quantitation limits for iron adequately sensitive?
 - Are the biological metrics used adequately sensitive? For example, is "percent salmonids" a sensitive metric if the fish numbers for the waters in question are expected to be dominated by salmonids regardless of abundance?
 - Where appropriate thresholds used for each metric to distinguish between biological conditions in attainment of ADEC's designated aquatic life uses and non-attainment?
 - Were the mean iron concentrations calculated using appropriate averaging periods (e.g. annual means where used vs., for example, means of data collected prior to or on the date of biological data collection)?
 - Are the statistical methods used appropriate for this analysis and were the statistics appropriately applied?
8. Do the data support the conclusions?
 - Does the analysis support a conclusion that the biology would be supported, at a condition attaining ADEC's designated aquatic life uses, at the maximum iron concentrations, vs. the mean concentrations, given that the data do not reflect continued exposure of the biology to the maximums?
 - Given that iron concentrations varied from site to site, by more than two fold for the means, is it appropriate to conclude that the highest means would be protective at all sites throughout the basin?

9. Flaws or other shortcomings in support of the conclusions; and
10. Long-term protectiveness to the environment of proposed criteria.

The product due to the Department of Fish and Game and Department of Environmental Conservation will be a report including key findings, as described above, along with an annotated bibliography of important references used in the evaluation.

Project cost for this review will be _____. A draft report shall be prepared for review by _____ and a final report will be provided within one-week of receiving review comments from DF&G and DEC. We anticipate this project will be completed by _____.

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Friday, August 06, 2010 10:18 AM
To: Taylor, Tom (DFG)
Subject: RE: Chuit River drainage, site specific iron criterion

Thank you.

From: Taylor, Tom (DFG)
Sent: Friday, August 06, 2010 10:01 AM
To: Ott, Alvin G (DFG)
Subject: RE: Chuit River drainage, site specific iron criterion

Yes this would fit under the contract.

From: Ott, Alvin G (DFG)
Sent: Wednesday, August 04, 2010 10:56 AM
To: Phyllis
Cc: Nakanishi, Allan S (DEC); McGee, William D (DEC); Taylor, Tom (DFG); Smith, Patricia G (DFG); Nelson, Becky L (DFG)
Subject: Chuit River drainage, site specific iron criterion

Phyllis, here is a draft proposed scope of work for the site-specific water quality iron criterion for the Chuit River drainage. Please work with ADEC on any proposed modifications and keep me posted. Tom Taylor – could you check to make sure this is within the scope of our existing contract (IHP-10-021) with Phyllis Weber Scannell.

Ott, Alvin G (DFG)

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Cc: Nakanishi, Allan S (DEC); McGee, William D (DEC); Taylor, Tom (DFG); Smith, Patricia G (DFG); Nelson, Becky L (DFG)
Subject: Chuit River drainage, site specific iron criterion
Attachments: 100803_IronSSC_SoW.doc

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Ott, Alvin G (DFG)

From: McGee, William D (DEC)
Sent: Tuesday, August 03, 2010 12:54 PM
To: Ott, Alvin G (DFG)
Cc: Nakanishi, Allan S (DEC)
Subject: FW: Iron review scope of work
Attachments: 100803_IronSSC_SoW.docx

Al – Can you forward this on to Phyllis for her input so we can get this work started?

Thanks
Pete

From: Nakanishi, Allan S (DEC)
Sent: Tuesday, August 03, 2010 12:15 PM
To: McGee, William D (DEC)
Cc: Nakanishi, Allan S (DEC)
Subject: RE: Iron review scope of work

Pete,

I've made some edits (see attached). I have not heard back from Bill Beckwith yet. Lets move on get this to Al Ott so he can set up the contract with Phyllis. If Bill does comments, we'll modify the contract with Phyllis as necessary.

Thanks!

-allan

From: McGee, William D (DEC)
Sent: Thursday, July 29, 2010 11:39 AM
To: Nakanishi, Allan S (DEC)
Subject: Iron review scope of work

Here is a start on a scope of work. I would suggest that Bill Beckwith provide some comments on this.

Thanks
Pete

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Tuesday, August 03, 2010 1:18 PM
To: Nelson, Becky L (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

Here's the whole thing.

From: Smith, Patricia G (DFG)
Sent: Tuesday, August 03, 2010 1:17 PM
To: Ott, Alvin G (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

From: Smith, Patricia G (DFG)
Sent: Monday, August 02, 2010 2:26 PM
To: Taylor, Tom (DFG)
Cc: Nelson, Becky L (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

One other question just came up. The \$50k that we are contracted for with Scannell Scientific, is that per year, or per contract?

*Thanks,
Patty*

From: Ott, Alvin G (DFG)
Sent: Monday, August 02, 2010 2:15 PM
To: Smith, Patricia G (DFG)
Subject: RE: New Work Scope for Phyllis Weber Scannell

Why are we contracting for DEC work? DEC felt it would be easier for us to do it under our existing contract. What exactly is she going to do? A work scope will be developed and agreed to, but basically it is work to assist ADEC in developing a site-specific criterion for iron for the Chuitna Mine Project.

This type of work is well within the scope of the work specified in the contract.

What is the funding source for this work? It will be the RSA we have with DNR for the Chuitna Mine Project.

From: Smith, Patricia G (DFG)
Sent: Monday, August 02, 2010 1:19 PM
To: Ott, Alvin G (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

Al, can you clarify . . .

*Thanks,
Patty*

From: Taylor, Tom (DFG)
Sent: Monday, August 02, 2010 12:21 PM
To: Smith, Patricia G (DFG)
Cc: Nelson, Becky L (DFG)
Subject: RE: New Work Scope for Phyllis Weber Scannell

Let's see here...

Why are we contracting for DEC work?

What exactly is she going to do? We will need to make sure that it is in keeping with the scope of work specified in the contract.

What is the funding source for this work?

From: Smith, Patricia G (DFG)
Sent: Monday, August 02, 2010 10:58 AM
To: Taylor, Tom (DFG)
Cc: Nelson, Becky L (DFG)
Subject: FW: New Work Scope for Phyllis Weber Scannell

The below email references IHP-10-021. Do you foresee any problems?

*Thanks,
Patty*

From: Ott, Alvin G (DFG)
Sent: Friday, July 30, 2010 10:26 AM
To: Nelson, Becky L (DFG); Smith, Patricia G (DFG)
Cc: Benkert, Ronald C (DFG); Howard, Kerry M (DFG); Daigneault, Michael J (DFG); Marie, Megan E (DFG)
Subject: New Work Scope for Phyllis Weber Scannell

I've been asked by ADEC to use our existing contract with Phyllis to cover her work on a site-specific criterion for iron for the Chuitna Mine Prospect. ADEC will put the work scope together and then we will reach agreement with Phyllis on the scope of work and the cost. If needed, ADEC will then reduce their RSA with DNR by the appropriate amount and add it to our RSA for the Chuitna Mine Prospect.

I don't know the cost yet, but just wanted to check to make sure this was going to be OK with you under the existing contract. Our existing contract with Phyllis goes through December 2011 and has a limit of \$50,000. We've spent less than 5K so far. Also I am assuming that the contract that Jackie Timothy has with Phyllis for the Stikine River data analysis and summary is totally separate and does not affect the one we have here in Fairbanks.

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Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Thursday, July 29, 2010 2:11 PM
To: Daigneault, Michael J (DFG); Marie, Megan E (DFG); Benkert, Ronald C (DFG)
Subject: Site Specific Iron Criterion for Chuitna

Talked with Ron Benkert about this today.

ADEC has asked that I take care of getting Dr. Phyllis Weber Scannell to do some work for them on the site specific criterion for iron for Chuitna. I will keep you posted throughout this process. First step was to call Phyllis and she agreed to do the work. Second step is for ADEC to prepare the scope of work and reach agreement with Phyllis on that and the associated cost and time frame. If needed ADEC will reduce its RSA for the project and have DNR put the money in ours.

Any questions, just give me a call.

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Thursday, July 29, 2010 11:03 AM
To: McGee, William D (DEC); Nakanishi, Allan S (DEC)
Subject: FW: Scan from a Xerox WorkCentre
Attachments: DOC.PDF

Here is an example of a scope of work - for the Copper literature review, effects on salmonids.

I will have to do some more checking with our admin people just to make sure we can do this - if I run into any problems I will let you both know.

-----Original Message-----

From: dfgstaffxerox@alaska.gov [mailto:dfgstaffxerox@alaska.gov]
Sent: Thursday, July 29, 2010 12:56 AM
To: Ott, Alvin G (DFG)
Subject: Scan from a Xerox WorkCentre

Please open the attached document. It was scanned and sent to you using a Xerox WorkCentre.

Attachment File Type: PDF

WorkCentre Location: DAS Mailroom Hall Area Device Name: DAS-XEROX-33

For more information on Xerox products and solutions, please visit <http://www.xerox.com>

Ott, Alvin G (DFG)

From: Ott, Alvin G (DFG)
Sent: Monday, July 21, 2008 1:35 PM
To: 'Phyllis'
Cc: Daigneault, Michael J (DFG); Estensen, Jeff L (DFG); Maclean, Scott H (DFG); Pilon, Timothy A (DEC); Johnson, David E (DEC); Vohden, Jim (DNR); Fogels, Edmund J (DNR); Crafford, Thomas C (DNR); Leonard, Cameron M (LAW); McGroarty, Steve J (DNR); Howard, Kerry M (DFG)
Subject: Scope of Work - Copper Effects
Attachments: Copper Work Scope Phyllis Weber Scannell.doc

Phyllis, enclosed is a proposed scope of work for conducting a literature review on effects of copper to specific cold water fish species. Just let me know via email if the work scope is acceptable, including the time frame for completion. Thank You.

7/21/2008

WORK SCOPE

Effects of Copper on Aquatic Resources, Literature Review

The focus of this work will be on effects of copper to cold water fish species (Pacific salmon, Arctic grayling, Dolly Varden, and rainbow trout) and how acute and chronic toxicities found in the literature compare with existing State of Alaska and/or federal (Environmental Protection Agency) water quality standards. Information pertinent to how the existing standards were set should be provided. Effects to adult migration (e.g., homing to natal streams), juvenile fish, and egg fertilization, incubation, and fry survival will be part of this review. The product due to the Division of Habitat will be a report including key findings along with an annotated bibliography of important references. Project cost for this preliminary literature review is between \$7,000 and \$15,000. A draft report shall be prepared for our review. We anticipate that this project will be completed by October 30, 2008.

We view this effort as a first step at looking at copper effects on specific cold water fish species.

